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SALT AND FISHERY,

A Discourse thereof

Insisting on the following HEADS.

1. The several *ways* of making *Salt* in *England*, and Foreign Parts.
2. The *Character* and *Qualities* good and bad, of these several sorts of *Salt*, English refin'd asserted to be much better than any Foreign.
3. The *Catching* and *Curing*, or *Salting* of the most Eminent or Staple sorts of *Fish*, for long or short keeping.
4. The Salting of *Flesh*.
5. The Cookery of *Fish* and *Flesh*.
6. Extraordinary Experiments in preserving *Butter*, *Flesh*, *Fish*, *Fowl*, *Fruit*, and *Roots*, fresh and sweet for long keeping.
7. The Case and Sufferings of the *Saltworkers*.
8. Proposals for their *Relief*, and for the advancement of the *Fishery*, the *Woollen*, *Tin*, and divers other *Manufactures*.

By *JOHN COLLINS*, Accomptant to the ROYAL FISHERY Company.

E Reg. Soc. Philomath.

LONDON, Printed by *A. Godbid*, and *J. Playford*, and are to be Sold by Mr. *Robert Horne* at the *Royal Exchange*, Mr. *John Kersey*, and Mr. *Henry Faithorn*, at the *Rose* in St. *Pauls Church-yard*, Mr. *William Bury*, *Globe-maker*, at the *Globe* near *Charing-Cross*, 1682.

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To Sir James Shaen, *Knt. and Baronet; His Majesties Surveyor General of* Ireland, *and one of the Kings Chief Commissioners, Managers, and Farmers, of his whole Revenue of that Kingdom.*

Honoured SIR,

SOme years since when I had first the happiness of being known to you, and at the same time Laboured under great Discouragements in my endeavours to serve the Publick: You were generously pleased to offer me a Considerable Employment in *Ireland*, which favour I had readily, and thankfully accepted, could I have extricated my self from several Difficulties, which then did, and still do lie upon me.

'Tis now my Fortune to be engaged in the Service of the *Royal Fishery Company* of *England*, who after they had lost their Stock of Eleven thousand Pounds, (chiefly by reason the *French* took Six of their Seaven Doggers, with their Ladings, *&c.*) did in *July*, 1680. Sell their Vessels and Stores, and though they came to a Subscription for a New-Stock, yet the affair would have fainted away again, without your assistance, which hath revived it for the present.

And though I am obliged to you in this double Bond of Duty and Gratitude, yet the chief Motive of this Dedication, was indeed the same that occasioned the Publishing this Discourse, *viz.* The great desire I have to see this Company Flourish, by procuring it some considerable Encouragement, which I hope may, and will be done by your means.

The Success that, contrary to all Men's Expectation, hath attended your Management of his Majesties Revenue of *Ireland*, which you have raised to a far greater yearly Sum, than that which Ruin'd the Persons formerly concern'd therein; as it shewes your skill and conduct in things of this Nature, *&c.* so I hope it will Enable and Encourage you to proceed vigorously in this Design; and if so, I shall account it none of the least Happinesses of my Life, that by my Books, Papers, and Discourses, I have been Instrumental to engage you in it.

All that are acquainted with you know, that your Studies and Endeavours for many years, have aim'd at nothing so much, as the promoting his Majesties Honour and Interest, by the Improvement of his Revenue both in *England* and *Ireland*, which you rightly say must be effected by the increase of Trade and Manufacture, to enrich his People, and make them Happy: I shall therefore use no other Argument to stir up your zeal in this case, but that the best, if not only way to render the King and Kingdom rich at home, and formidable abroad, is by making the Fishery thereof considerable.

But in what I here present unto you, I have not wholy confined my self to this Subject, because I have a particular *Treatise* thereof ready for the Press consisting of,

1. Narratives of the several undertakings of the Fishery in *England*, with the causes of their Miscarriages.

2. An Accompt of the present Encumbrances or Impediments thereof.

3. An Assertion that *England* can never be considerable in Fishery, without great Encouragements to undertake it in the *North* and *Irish* Seas.

4. The

4. The great Benefits accompanying a good Fishery.

5. The ill Consequences of losing it.

6. Divers effectual Encouragements and Laws propounded.

To which may be subjoyned two Discourses, the one about the necessity, utility, and instructions of a Council of Trade; The other about the Manufactures of Canvas, Cordage, and Linnen to be made in *England*, as incredible means to render his Majesty, People, and the Fishery Happy.

I shall say no more at present, but that if there could be contrived the raising of a sufficient Fund, to carry on this great affair, Heaven seems to lend us its helping hand, by infatuating the Councils of the *French-King*, who while he aims at universal Monarchy and Trade, drives over hither great numbers of his poor Protestant Subjects, very fit to be employed in the Fishery, *&c.* which if it thrive, is alone enough to spoil his Project, and to secure unto *England*, the Soveraignty of the Seas.

This is a noble Task, the compassing whereof, would entitle the Persons concern'd to the publick thanks of the Nation, and the Prayers of many thousands of poor People who must be employed therein; how far your Interest and Endeavours can contribute towards it, I earnestly recommend to your serious consideration, and shall always Study to approve my self,

Your Worships

Most humble diligent Servant

JOHN COLLINS.

TO THE READER.

I have in the Preface of my Introduction to Merchants Accompts, intimated that from 1642, to 1649, I went Seven years to Sea; the major part of it, in the Venetian Fleet against the Turks assaulting Candy, during which time, knowing that much Meat bought of the Albanezes in the Gulf of Negropont (aliàs Eubœia) &c. which Stunk; it begat in me a Curiosity to Pry into the nature of Salt, and some few Papers of that kind I have met with in Print, and cited; now these being from time to time augmented by the information of some Saltworkers, have begot the following Discourse, and here it behoves me to return thanks, and make my acknowledgments, which I do, first to Mr. William Martin, sometimes a Saltworker in Cheshire (and Staffordshire,) who many years since gave me an account of the sad Condition of those Saltworkers, accompanied with some arguments for the Encouragement of that Manufacture.

After this, falling into the acquaintance of the renowned Mr. Richard Alcorne, he courteously invited me to come and see his Work, and the performances thereof, where in August, 1680. he Entertained me most kindly, and hath been the Author of the most considerable part of this Discourse, for which he hath my acknowledgment and thanks, in Pag. 69, &c.

Divers

To the Reader.

Divers in England *and* Ireland, *have unadviſedly (to their great Loſs) attempted to ſet up Saltworks in Places unfit for the ſame; the like undertakings for the future, may poſſibly be prevented by this Diſcourſe. Now a word of addreſs.*

To the Saltworkers, (&c.) in General.

Gentlemen,

I have ſtudied to be impartial, and I hope I have rather deſerved your thanks, than reproof; if any of you have any juſt Exception to what is ſaid, vouchſafe to impart the ſame in a Letter to me, to be left at the Coffee-Houſe of Mr. Samuel Booth, *in* Ave-Mary-Lane, *and I ſhall recant in an Appendix, and amend it God willing in the next Impreſſion.*

Some of you not thoroughly underſtanding your own Intereſt, may repine at an Impoſition upon Salt, but I pray (after reading this Diſcourſe,) conſider what other redreſs you can reaſonably expect, and that part of ſuch Revenne will ſupport the Fiſhery of the Nation, and the ſaid Fiſhery on the contrary will make amends for the ſame, in regard each Dogger (being a Veſſel of 70 *or* 80 *Tons Burthen,) if conſtantly employed, may ſpend in the* North-Sea *Fiſhery, and in the Channel Fiſhery for Herrings and Cod, from* 45 *to* 50 *Weys, (of* 40 *Buſhels each) of Salt yearly.*

As to the New Invention of making Salt in Pag. 8, *the Pattentees ſay, that it will be advantageous or ſupplemental to all the ways of making Salt yet known, deſtructive to none, and they hope that great quantities of* Engliſh *Salt will come into renown, and find vend in the Northern Kingdoms, in which, according to an account or eſtimate found amongſt the Papers of the learned* William *Lord*

Brereton

Brereton *lately Deceased, there hath been vended yearly the following quantities.*

	Barrels of 4 Bushels each Winchester Measure.
Gottenburgh	10000
Berghen	12000
The rest of Norway	10000
Sweden *and* Schonen *from* Gottenburgh *to* Stockholm, 8 *or* 9 *Ports*	10000
Stockholm, *and as far up as* Finland	50000
Riga, Revell, *the* Narve Curland	
Dantzick, Conningsberg, Stettin, Straelsond, Rostock. *At least as much Salt brought by Sea, as all* Sweden *and* Norway *spends, that is*	184000
Total Barrels	276000

That is 1104000 *Bushels or* 27600 *Wey, this is said to be an estimate, made by Mr.* Bedall *a Merchant, in* 1673, *who had Lived long, and Travailed much in those Countries; I knew him well, and remember I recommended him to the Right Honourable the Lord* Brereton *aforesaid.*

Now that our Newcastle *Salt may grow more famous, by turning* Jarrow Slyke, *mentioned in* Pag. 21. *into a Saltwork, Supply a Northern-Fishery, Obtain this Foreign vend; and in General, that the Saltworkers may prosper after their long Afflictions, and the publick reap Benefit by these Endeavours, is the most hearty Prayer and desire of the Author,*

JOHN COLLINS.

A

DISCOURSE

ABOUT THE

Several ways of Making

OF

SALT

IN

ENGLAND.

1. *Of Salt made of the Brine from Pits.*

ONe of the most Ancient ways to make Salt, is by boyling of Bryne from Springs or Pits; whereof the most Eminent are found in *Cheshire*, and *Worcestershire*, Of which in Order.

Of Cheſhire *Salt.*

THe cheif in *Cheſhire* are at *Northwich*, *Middlewich*, *Namptwich*, of which thoſe at *Northwich* have the perheminence.

There is one Pit in the Town, and five without the Town: All which afford excellent Brine, in great plenty; of which is made Salt, pure, ſmall or big kerned, heavy, hard, dry, that loſeth little in Bulk, if well kild or preſt into the Bag; which are the qualities of the beſt Salt, and is there Sold at about 3 *s.* a Load, which contains ſix Buſhels or Meaſures.

And the Place hath a more convenient Scituation than the reſt, as being within five or ſix Miles of *Fratſom*-Bridge, where it is Laden for *Ireland:* And if Encouragements were not wanting, it might be made Navigable to the Sea, by a River running through the Town thereto.

At *Middlewich*, there are ſeven Pits or Bryne ſheaths, which yield moſt rich Bryne, and in great Plenty.

At *Namptwich*, they have one Pit within the Town, and two without, ſufficient to ſerve the Fourth part of the Nation the Bryne being ſo fluent, but of a weaker kind than thoſe of the other VVyches, in which there is ſome ſo ſtrong, that it begins to turn to Salt within an Hours boyling, as I am informed.

Whereas at *Namptwich*, the Pans had need to be twice or thrice filled and boyled down, yea, and I am informed that the late Lord *William Brereton* Deceaſed, made large Leaden Coolers, to put the Salt into when it came out of the Pans, where it would Dry, Harden, and become big Grained. The Reader may take an Eſtimate of the ſtrength of the Bryne of theſe Places, by comparing the Quantities of Salt there made, with the quantities of Coales ſpent, according to a Calculation thereof made, long ſince by his Lordſhip, for one VVeek, on a Medium, as the 50*th.* part of a year.

Names

Names of the *Salt* Works, and Owners.	N° *Pans.*	*Buſhels of Salt weekly made.*	*Loads of Coals ſpent.*	*Price of Coals.*	*Other Coſts.*	*Pans that may be.*
Northwich.				l. s.	l. s. d.	
Earl *Rivers* ——	4	2400	264	15 10	2 0 0	8
Baron of *Kinderton*	4	2400	264	15 10	2 0 0	8
Mr. *Brook* ——	6	3342	396	22 15	3 0 0	6
Mr. *Marbury* ——	2	1300	102	5 16	0 14 0	at pleaſure
Town Works ——	7	2772	462	26 19	3 11 0	7
		12214	1488	86 10	11 5 0	
Middlewich.						
Town Works ——	12	1100	282	14 02	3 0 0	40
Baron of *Kindertons*	7	2210	220	11 00	3 0 4	at pleaſure
Mr. *Oldfeild* ——	1	400	52	2 12	0 10 0	1
Mr. *George Craxton*	1	250	39	1 19	0 10 0	
Mr. *Ch. Mainwaring*	1	340	39	1 19	0 10 0	
		4300	632	31 12	7 10 4	
Namptwich.						
Town Works ——	24	3840	1016	50 16	7 0 0	at pleaſure
Sir *Thomas Delves* near *Oſterton* ——	3	360	200	10 00	2 0 0	
		4200	1216	60 16		

In *Stafford-ſhire*, there is Bryne ſo weak, that the Pans muſt be four or five times filled and boyled down.

Theſe Springs being remote from the Sea, are conceived to ariſe from Rocks or Mines of Salt under the Earth the which are moiſtened by ſome Channels or ſecret paſſages under Ground, which may be confirmed from a Narrative in the *Philoſophical Tranſaction*, N° 66. how a Rock of

Natural Salt, and a Bryne Pit was discovered in *Anno* 1670. Namely a Person that searched with an Auger for Coles in the Soil of *William Marbury* of *Marbury*, Esq; lighted upon a Rock of Salt; that which the Instrument brought up was as hard as Allom, and as pure, and when pulverized became an excellent sharp Salt. Out of the Auger-hole Brine flew up more fierce than if it had been squirted out of a *London* VVater-Engin, used for quenching Houses on Fire: The Bryne proved very vigorous and sharp, beyond any of the Springs in other Salt-works, to which this makes an accession.

The which may be further confirmed, by a Narrative in *Transaction*, N° 53. By falling in of the Ground, and loss of a Bryne Spring where one formerly might have been found, conceived to be undermined by subterraneous streams, to wit, in the Lord *Cholmondely*'s Mannor of *Bilkly*, about the year 1659. Not far from one of their Mosses, which is a Mooriſh Ground, very stringy and fat, good for Turfs, a peice of Ground about 30 yards over, without any Earthquake, sunk down with a huge Noise, and great Oaks growing on it, fell with it together; which hung first with part of their Heads out, afterwards sunk further down, quite out of sight. Into which Pit, they let down a Pitcher tyed to a Cartrope, but could reach no bottom with the Ropes they had there: And according to the Judgment of persons present, the Pitcher was carried away as in a Stream, but when they drew it up, it came filled with a rich Bryne. Since the Pit is filled up with Water, and now doth not tast Salt, but a very ltttle Brackish.

Of the Brine of Pits.

IF there be not Ignorance in the Art of Boyling, nor Cost and Labour wilfully spared, there may be made Salt good for all Uses; And in the Counties aforesaid, many more Springs might be discovered, and vast quantities of Salt made, more than can be spent in his Majesties Dominions.

In the *Philosophical Transaction*, N° 142. we read, that there are some sorts of Salt made in *Cheshire*, that are so weak,

weak, that they are forced to keep it in Barrows, in Stoves to dry it, and to make it no faſter than they can ſell it. And this is confeſſed in *Philoſophical Tranſaction*, N° 53. to be rather a fault, than an ignorance in the Boyling, to ſave Charges either in Labour, Time or Fuell; For even of meer Sea-Water, (whereof 5 or 6 gallons will not yield ſo much Salt as one of *Cheſhire* Brine,) may be made a hard dry Salt, that need not be kept in a Stove, or Box by the Fire-ſide.

The ſaid *Tranſaction*, gives an account of the manner of boyling the Brine into Salt at *Namptwich*. They boyl it in Iron Pans, about 3 foot ſquare, and 6 inches deep; their Fires are made of *Staffordſhire* Pit-Coles, and one of their ſmaller Pans is boiled in 2 hours time.

To clarify and raiſe the Scum, they uſe Calves, Cows, and Sheeps blood, which in *Philoſophical Tranſaction*, N° 142. is ſaid to give the Salt an ill ſavour.

As to the goodneſs of the Salt at *Northwich*, it is affirmed by Mr. *William Martin*, formerly a Salt worker, that many Sea-Towns of *England*, and moſt parts of *Ireland* are furniſhed with it, and it excellently ſaves their Beef and Fiſh.

Tranſaction, N° 53. The *7th.* Query about Salt is,

Whether the Salt made of theſe Springs, be more or leſs apt to diſſolve in the Air than other Salt? And

Whether it be as good to Powder Beef and other Fleſh with, as *French* Salt? To which

Anſwer is made, that *French* Salt comes not thither, to compare the efficacy of the one with the other experimentally; But 'tis there aſſerted, that with it, both Beef and Bacon are very well preſerved ſweet and good a whole Year together: And this Salt is apprehended to be rather more ſearching than *French* Salt; becauſe it hath been Obſerved, that Meat kept with this Salt, ſhall be more fiery ſalt to the midſt of it, than powdred Meat on Shipboard cured with *French* Salt.

To this we ſay, that Beef may be much longer kept than a Year, and ſhall be ſofter and fuller of Gravy, than if it had been cured with *French* Salt, as is afterwards aſſerted.

'Tis alſo ſaid, that *Cheſhire* ſends yearly much Bacon to *London*, which never had any mark of Infamy ſet on it.

To

To which I reply out of certain knowledge, that one Mr. *Glover*, who kept a Chandlers Shop, had ſome Flitches brought up by his Brother a Carrier, that proved to be Naught, Ruſty, almoſt all Fat, the crime of *Cheſhire* Bacon, and for being ſuch, was conceived to be worſe than any other Bacon in *England.*

The faults are but partial or particular, poſſibly the Hogs might be over fed with Whey, and be ſalted only with Brine.

And on the contrary, *Herefordſhire* Bacon, where the Swine beſides Graſs, feed upon Apples, Acorns, Maſt, Beans, and Peaſe, being ſalted with Clods of *Worceſterſhire* Salt, proves the beſt Bacon in *England*, and is ſaid to be brought up Weekly to the Caſtle in *Woodſtreet.*

The Bacon of *Hants*, and other Counties, ſalted with *Port-Sea*, or *Lemmington* Salt, hath alſo as good Repute.

In the ſaid *Tranſaction*, 'tis alſo affirmed, that hanged Beef, which others call *Martinmaſs* Beef, is as good and as frequent in *Cheſhire* as any Place.

This we ſhall confirm, by a Relation imparted by the Learned Mr. *Stretell*, who ſaith

That a *Cheſhire* Gentleman, that was minded to kill and ſtore up an Oxe, for his Family, did chooſe one of the Largeſt, Oldeſt, and Leaneſt, that could be found among many: And after feeding him with Graſs, Hay, and Oats, from the beginning of *May*, till towards *Chriſtmas*, the ſaid Oxe not being heated with Driving, was killed and ſalted up, the Chines and other peices being but gently rubbed with *Northwich* Salt, and put into powdering Tubs, and there now and then as occaſion required were rubbed over again with Salt.

That after 14 Months keeping, a Chine of this Beef was Roaſted, and proved delicious beyond compare, full of ſweetneſs and Gravy, but moderately Salted, and Eat with a ſavour like Marrow; the like he never expects to meet with, ſhould the Cattle either be driven, or the Salt prove bad.

Of Worceſterſhire Salt.

SEe *Tranſaction*, N° 142. where there is a Narrative of the manner of Boyling, and an Account that about *Droytwich*, within 4 Miles of *Worceſter*, there are many Salt-Springs, particularly one in the great Pit at *Upwich*, of which is made 450 Buſhels of Salt in every 24 Hours, ſo ſtrong that 4 Tuns of Brine make one Tun of Salt.

The Brine is ſaid to be ſo ſtrong, that it cannot be Boyled in Iron-Pans, neither Caſt nor Wrought, becauſe the former breaks, and the latter is too ſoon Corroded.

But this is denyed, and the contrary affirmed, in a following part of this Diſcourſe, aboout *Portſea*-Salt.

They ſay they are therefore driven to the uſe of Leaden-Pans, 5 foot and a half long, and 3 foot wide, whereof the ſides and ends are beaten up.

Their Fuel was formerly all Wood, but ſince the Iron-Works in the Forreſt of *Dean* have deſtroyed the Wood there, *&c.* they cannot at any reaſonable diſtance be ſupplied for one quarter of a Year, and are now forced to uſe Pit-Coles, that are brought 13 or 14 Miles.

Concerning Leaden Pans, we read in *Tranſaction*, N° 8. That the Salt-water at *Lunenburgh*, being more greeniſh than white, and not very tranſparent, is about the ſame Nature, and hold with that of *Hall* in *Saxony*, (theſe being the two chief Brine Springs in *Germany*) and hath a mixture of Lead with it; Whence alſo it will not be Boyled in Leaden Pans, and if it held no Lead at all, it would not be ſo good, that Metel being judged to putrify the Liquor.

Whence alſo the Salt of *Lunenburgh*, is preferred before all others, that are made of Brine Springs there.

To this Paſſage in the *Tranſactions*, I ſubjoyn an Information of the Honourrble *Robert Boyle*, Eſq; of the *Royal Society*, to wit, that at *Hall* in *Saxony*, they have a weak Brine Spring, from whence perpetually laving Brine on *Hovels*, covered with Mats cloſe made of Reed, Straw, Flag, *&c.* the Brine running through is much evaporated, exhaled

haled and enriched in the Sun, before it be Boyled, and that in imitation hereof, a cheap Engin is invented, that will cast or winnow Sea-water so long in the *Air*, till it snow down a weak sort of Salt ready to dissolve, the which is afterwards Boyled, and makes big grained Salt; an Experiment whereof as Dr. *Hornick*, and others affirm, hath been tried before his Highness *Prince Rupert*, in the Spring-Garden, in the presence of Monsieur *Harrell* the Kings Apothecary, and many others: Moreover there are a new sort of Furnaces for quick Boyling invented, by virtue whereof 'tis said, that now 4 or 5 times as much Copperas, Salt, Allom, *&c.* may be made at the same Charge, as was formerly wont to be; an Experiment whereof in Boyling Copperas, hath been tryed before Sir *Nicholas Crisp*. And the assertion is upon good Grounds, believed by the Honourable *Robert Boyle* aforesaid, there being two Patents granted for the same: The Prior to an *English*-Man, and the Latter to a *French*-Man: On occasion whereof a Discourse arising about another Patent, craved for separating good fresh-Water, from Salt-Water; Mr. *Boyle* affirmed, it had been before performed by himself, that he had presented his *Majesty* with some bottels of Water so made, and with the Secret, that it would be of great use at Sea in many Emergencies, yea and of Ordinary use in saving much Cask and Stowage; That all Pump-Waters had a little saltness in them, and that the Waters thus made, were wholsome, and no salter than Pump-Water.

The *Transaction*, N° 142. about *Worcestershire* Salt, hath not answered the *Query* about the Time of Boyling, the which indeed is too soon; And if this strong Brine be not allay'd with weaker, or Fresh-Water, they are necessitated to put a small quantity of Rosin into it, to make it small Grained; And when there cannot be time enough to Boyl, and cleanse a strong Brine from its Scum, the Sand cannot be got out, and ill qualities must in some measure, remain still in the Salt.

Here, in *Cheshire*, and other Salt-Works, they use to clarify and raise the Scum of the Brine, by putting a fourth part of the white of an Egg, into a gallon or two of Brine, which will lather like Sope; a small quantity whereof put into each Pan, raiseth the Scum.

The

The water of Salt-Springs, is very cool at the bottom of the Pit; insomuch that when the Briners go to cleanse it, they cannot abide in above half an hour, and in that time drink much Strong-water; However it never freezeth. See *Transactions*, N° 53. and 152.

Whence we have the following Arguments, to prove the Excellency of this kind of Salt.

1. THe Salt commonly made, after Boyling is dry in 4 hours time, and keeps so without Fire till it is Sold, which may be half a year, or three quarters of a year after it is made, and is not so apt to dissolve as *Cheshire* Salt; Nor as that which is made, by dissolving Bay Salt, and clarifying it.

2. There can be none whiter and freer from Dross, and it is a weighty Salt: A *Wincheſter* Bushel being in the said *Transaction* said to weigh half a Hundred.

3. In the time of the *Dutch* War, this Salt was carried into the *West*, where they had before none but Foreign Salt; where at first using, they complained it made their Meat too Salt, which was because they used as much of it, as of *French* Salt, consequently it is better.

4. It hath preserved Flesh for long Voyages, and hot Climates, to wit, to *Jamaica*.

5. Herrings have been salted with this Salt in *Ireland*, and brought over, which have been whiter and better tasted, than those salted with Bay Salt.

6. It is an ordinary way in powdering of Beef, to give it but one salting, to keep it the whole year.

7. They have a sort called Clod-Salt, which is digged up from the bottom of the Pans with a Picker, being the strongest kind of Salt, and most used for salting Bacon and Neats-Tongues; It makes the Bacon Redder than other Salt, and causeth the Fat to Eat firm. And if the Swine are fed with Mast, it hardens the Fat, almost as much as if fed with Pease, and salted with white Salt: And is used by Country-Women to put into their Runnet-Pots, and as they say, is better for

their Cheeſe; theſe Clods are uſed to Broyl Meat with, being laid on Coles. This ſort of Salt is accounted too ſtrong to ſalt Beef with, it taking away too much of its ſweetneſs.

Beſides the common Salt, it is here ordinary to make Loaves like Sugar-Loaves of the fineſt of the white Salt, which will keep dry without a Fire. Whereas at *Namptwich*, they are kept long in a Hot-Houſe, and Baked twice or thrice in an Oven, and then placed on a Stove or Chimney Corner, and covered with a Hoſe.

Mr. *W. Martin*, that hath a Salt-Work in *Staffordſhire*, and hath had occaſion to View and Surveigh all the Salt-Works in *Cheſhire*, affirms, that what is all eadged concerning the Salt-Works in *Worceſterſhire*, the ſame may be done and ſaid of the Salt-VVorks in *Cheſhire*.

2. *Of Salt made by Boyling of Sea-Liquor.*

THe want of Brine-Springs on the Eaſtern Coaſts of *England*, and the over-dearneſs of Foreign Salt, begat the neceſſity of making much Salt at *Sheilds*, and in the Counties of *Durham*, and *Northumberland*.

The Pans there uſed are made of wrought Iron, of 18 or 19 foot long, 12 foot broad, and 14 inches deep; the Fewel being for the moſt part, a ſort of cruſty, droſſy, mouldring Coal, taken from the upper part of the Mine, which if not ſpent this way, would be for little or no other uſe, to the prejudice of the Coal-Miners, and be mingled with the better ſort of Coals, to the great dammage of the Buyers, eſpecially thoſe of *London*.

The Sea-water they commonly at Spring-Tide let into Ponds called Sumps, from whence 'tis pumpt into their Pans, which are ſix or ſeven times filled, and half or more every time Boyled away, before it becoms Salt.

Sometimes there are great freſhes in the River of *Tyne*, which impair and weaken the Sea-water, but at ſuch times they do not admit the Sea-Liquor into their Ponds, neither need they, for through want of Vent, they give over working five Months in a year.

Of late they Boyle the Salt better, and make it harder than they formerly did: Salt made by Boyling of Sea-liquor, being moist and apt to run to VVater, hath undergone a bad Repute.

Dr. *Beale*, in *Transaction*, N° 103. saith, that our good Housewifes do find a great difference between our common Bay Salt, and the several other Salts which are in use amongst us.

VVe find some white Salt very faint, and the price infers a difference between *Spanish*, *French*, and *Portugal* Salt.

Of Newcastle *Salt.*

IF Salt of this kind be well made, it may be very serviceable for Bread, Butter, Cheese, and Meat for Household expence, and without hazard may serve for Meat, and Fish that is not intended to be preserved for long Voyages, and through hot Climates, but a Salt that runs to water, cannot be proper to cure Fish withall, that are salted in Pile or Heaps, for the Salt besides the ill quality and taste which it hath in it of bittern, runs away from the Fish, before it hath wrought its Effect. And the Fishmongers say that instances may be given of whole Ladings that so miscarried.

A Merchant in *Abchurch-Lane*, had a cask of Chines of Bacon, and Chines and other pieces of Pork, that was sent as a Present from *Newcastle*, most of it stunk before it Arrived, and that which did not, was ill-relished and oversalt.

On the contrary, the like hath been sent to Mr. *Binglos*, a Merchant in *Abchurch-Lane*, from *Portsmouth*, salted with *Port-Sea* Salt, which proved most excellent: divers of the Chines were taken out, and hung up with Packthreds, and so kept sweet for 4 or 5 Months, till there was occasion to spend them, and then proved Juicy, well-tasted, and not over Salt.

But it may be, there was either negligence or want of skill, in salting the said Pork with *Newcastle* Salt, or new

[illegible] instead of that which was old and fit for the purpose; for during our late inteſtine VVars and Troubles, Beef ſalted with *Sheilds* or *Northumberland* Salt, hath been preſerved ſweet and good, for above 2 years keeping in *Scarborough* Caſtle, during the Seige thereof.

Of which take the Narrative following, of Mr. George Cowart *Merchant in* Baſing-Hall-ſtreet.

HE ſaith, he was in thoſe times a Servant under Sir *Hugh Cholmely* Deceaſed, who was Governor of the ſaid Caſtle; who employed *Thomas Knolls* his Cooke Deceaſed, to Salt and Pack up the ſaid Meat, which he did in the manner following.

1. The Oxen being driven in cool, were afterwards Slaughtered, and hung up in Quarters, till the Meat was cool, which was afterwards cut into 4 pound pieces, and were well rubbed and ſalted with Salt, and pack't into Tubs or Cask, with Salt between every lay.

2. About 12 or 14 days after, the Meat was took out and permitted to dreyn 24 hours time or thereabouts, and then new ſalted and packed up again, with Salt covering the Meat in the head of the cask.

3. In the mean while the Brine remaining in the Cask, was Boyled for the ſpace of half an hour, and well ſcummed, and afterwards permitted, about a day to ſettle and Cool, and then the top Liquor was powred off, and look't like Canary, the ſediments and bottom being thrown away as uſeleſs.

4. This liquor was powred at the head of the Cask, to repleniſh all Vacuities, and then the cask were covered over or headed up, the Meat being now judged ſufficiently ſalted and preſerved for Continuance, which came to paſs accordingly, part of it being ſpent after two years end.

And, that none of it in all that time proved bad, and he believes it would have kept much longer, in regard ſome of it was afterwards found amongſt the Rubbiſh or Ruines of the Caſtle,

Castle, which was in part shot down during the Seige, which Beef so found, proved very sweet and good also.

The like may be said concerning the late miscarriages of the North-Sea Fisher-Boats of the Isle of *Thanet*, using this Salt with ill Success, whereas others have had their Fish cured to content.

And there is no doubt but as good Salt is, and may be made of Sea-water at *Newcastle*, as in *Scotland*, where many *North-Sea* Boats bound to *Iceland* take in their Salt, particularly one *Cloudesly Cooke* Master of one of the Royal Fishery Companies Doggers, in 1677 took in his Salt there, by order of the Company, moved thereto by these Reasons.

1. An old Salt is judged much better and fitter for use than Salt new or lately made, in regard it hath had time enough to drip and harden, if well made, or dissolve if otherwise.

2. In regard there is little Salt, (as was alleadged) to be had at *Newcastle*, that was old enough for Fishery use.

3. In regard Salt was to be had much cheaper in *Scotland* than at *Newcastle*, where Coals, Dyet, and Labour are much dearer than at the Salt-Works in *Scotland*.

With *Scotch* Salt, he cured the whole Lading of Cod, having none that were weak or slab salted.

But of the Fishery of *Iceland*, and the miserable Life of the Inhabitants, we shall have a separate Discourse when we come to treat of Stock-Fish, Haberdine, Green-Fish.

Of Salt upon Salt, or Salt made by Refining of Forreign Salt.

THe *Dutch* above 50 years since finding the ill qualities and effects of *French* Salt, both as to Fishery-uses, and for curing of Flesh for long Voyages, besides the discolouring of Butter and Cheese, Prohibited the use thereof by Law, and being at Wars with *Spain*, Traded to *Portugal*, St. *Tubas*, and the *Isle* of *May*, for Salt granulated or kerned meerly by the heat or vigour of the Sun, and fell to the refining thereof at home by Boyling it up with Sea-water, and thereby cleansing it of

of three ill Qualities, to wit, Dirt, Sand, and Bittern. Of which more hereafter.

And *French* Bay Salt it self might be thus refined, but proves much worse than the Salts aforementioned, of which so refined may be made Salts good for all intents and purposes: And this may be performed on the Sea-Coast, where there are these Conveniences.

To wit, Ships or Vessels may Unlade or Lade Salt, where there is a River or Harbour of Salt-water, not incumbred with Freshes, or a Bank in which to make Sluices to admit at spring-Tides Sea-water into Ponds or Receptacles, and where there is Coal or Turf plenty and cheap.

4. *Of Salt made upon Sand.*

IN the *Philosophical Transaction*, N° 103. we read that in *Varro*'s days it was the reproach of our Transalpines, (who dwelt much further towards the South than we do,) that on the *Rhine* there was then neither Vines, nor Olives, nor Apples, nor Sea-Salt, nor *Fossil*-Salt, but they were driven to the poor shift of using the ashes of burnt-wood for their Salt.

Dr. *Beale*, in that *Transaction* further saith, we have formerly made hard shifts for it in *England*; and that at *Wyre-water* in *Lancashire*, Salt is gathered out of heaps of Sand along the Sea-side in many places; upon which sand (saith *Speed*) the People powre water until it gets a saltish humour, which they afterwards Boyl with Turf, till it becomes vvhite Salt.

A Letter from a *Cheshire* Salt-Worker, gives the following account of it.

Namely, that through Sluces in the Sea Banks, chiefly at spring-Tides, they let Sea-water into Ditches and Trenches from whence they sprinkle it, or lave it upon level Beds of Sand, that a scurf or Crust may be begotten by the heat and vigour of the Sun, which is afterwards raked up into to heapes and carried in wicker Baskets or Fenders to Brine Wells, where powring Sea-liquor to it, it carries away the saltish humour, and leaves most of the sand behind; And if any

any accompany the Liquor it afterwards ſettles to the bottom. The Brine thus made is afterwards Boyled into Salt, and makes a good kind in *Lancaſhire*, but reddiſh, that is uſed for curing of Fiſh, Fleſh, *&c.*

The following account of the manner of doing it in *Hants* is more particular.

The Trenches are made between every two Rods of Ground in breadth called Beds, whoſe length may be ſuch as is thought convenient.

The Beds are made upon Sand, on which they bring Sea Mud mellowed by the Sun and the Froſt, which they alſo call Sand, and endeavour to make as fine, as a Gardiner doth a Bed to ſow Onions upon; this done, they lave from their Ditches or Trenches, ſo much Sea-liquor as the Beds will receive for the preſent Time, which in two days time in hot weather, will be exhaled, the freſh from the ſalt.

Then the Earth appears in Clods, which they Harrow, and bring on a Drag, and a Rowle, make fine, and repeat Sea-liquor, this twice or thrice practiſed makes the Earth as ſalt as is deſired, with a ſcurf of Salt upon it, which done, they remove it in Barrows to Store-Houſes to keep, and immediately ſupply their Beds, and ſo continue all Summer.

And when there is occaſion to uſe it, they bring it out in Barrows, and put it into Wicker-baskets like Beehives, that have Dreynes at the bottom, to which putting Sea-water over the VVell, it carries away the Salt into a Well, from whence in Pales it is removed to the boyling-Pan, and being well Boyled makes an excellent Salt for Fleſh or Fiſh free from all Dirt and Sand, but this way of making Salt is accounted Laborious, and conſequently not much uſed.

Any Earth that may be made mellow and light, and will imbibe Liquor may be uſeful; but that which hath a mixture of harſh ſhuttle Sand, or ſuch as will make Morter, is improper for this purpoſe. To ſupply that which is proper, In *Lancaſhire* they uſe to pare the Surface of a flat of Sand that is overflowed by the Sea at ſpring-Tides, two or three days before thoſe Tides fall too low.

Of

Of Jerbo Salt.

AT *Jerbo*, a place in *Barbary*, 30 Leagues to the VVeſtward of *Tripoly*, is much Salt made, on a plain of red Sand, by the Sun's Vigor: the Sea (which here ebbs and flows but about a foot,) making its way through the Sea ſandy-Banks into the Plain aforeſaid. A *Baſſa* ſeeing a Ship Arrive from Sea, and Anchoring on the ſhoales where is ſafe Riding, eſtimates her Bulk, and ſells her Lading for about two Dollers a Ton, the which is carried on Board by *Turks*, or *Moors* into the bargain.

This Salt is of ſo ſtrong a Grain, that it will not readily Diſſolve in freſh-water, wherefore if it be neceſſary the Marriners put freſh water to it, to waſh out the Dirt and Sand, powring away the Liquor that will run.

Of Salt upon Sand, Embodyed by the Sun.

VVHere the Sun ſhines hot, and the Tides vary but little, 'tis eaſie to have Salt enough, as they have in many places of the *Streights*.

VVith Salt of the like kind made near *Smyrna*, Beef at Midſummer hath been excellently well preſerved in manner following.

The Ox hath been killed one day, and cut out into pieces and ſalted the next, the Salt hath been beat very ſmall, and the Beef being very well rubbed therewith, it was footed or preſſed into a Cask, with ſprinklings of Salt between each Lay, in which condition it was permitted to ſtand 48 hours, for cloſe packing made the Blood to ariſe above the Meat which was powred off, then a Brine was made of freſh-water, and Salt as ſtrong as might be ſufficient to cauſe the Salt to Diſſolve, (which it will not, if too little water be put in,) then the Meat was waſhed in this Brine, and well ſalted again as before, and then the cask filled up with the Brine aforeſaid. This was imparted by Mr. *Richard Norris*, an ancient experienced Maſter or Mate, who now teach-

teacheth Navigation and Mathematicks in *Crutched-Fryers*, and saith he hath seen it often so done, and none of the Meat stunk.

Observations thereon.

1. WE grant that Meat may be thus preserved from stinking for a years time or more, but withall affirm that such Salt being encombred with bittern, shall empair it in size gravey and goodness, from time to time till it be reduced to a rotten or mortified substance.

2. The bloody Brine, if there had been an intention of saving Salt, might have been boyled and scum'd, and after its settlement been powred off from its sediments, and used again to good purpose, being freed in part from an ill Quality.

3. Meat in hot Countries, hath been cured with hot Salt and hot Brine, and that it should be so, is the advice of Mr. *Richard Alcorne*, the contrary being proper for cold Climates.

4. He also thinks the letting of the Cask down into the Sea or Water, to be a good means to cool the Meat, and prevent all fermentation.

Many Islands in the *Atlantick* and *American-Ocean*, yield abundance of Salt made of Sea-water by the meer vigour or heat of the Sun, such are the *Tortudos*, but especially the Isle of *May*, one of the Islands of *Cape-Verd*, where whole Fleets of *Newfoundland*-Men, and *New-Englanders* use yearly to Lade: It lies in the North Latitude of about 15 degrees, is Peopled by *Portuguezes*, and their *Negros*, and hath a Governour; 'tis an Island of an Oval form, about Eight Miles in Length, is stored with Cattle, as Beef, Goats, Hogs, Asses, *&c.*

The Salt there is thus made, In the Raines (or that Winter they have) the Wind veres about more Southwardly than at other times, and the Sea swells higher, and makes its passage through the Banks, (as at *Ferbo*) into a shallow Lake of about 3 Miles in Length, and in some places about half a Mile in breadth, yea and covers a large Plain of Sand,

where in Summer time when the Sea is faln lower, it Cruſts or Kernes into large Salt, yea and cakes into large pieces, where it is by the Inhabitants, or (if need be) by thoſe that come to fetch it laid up in heaps, and afterwards conveyed by Aſſes or otherwiſe to the Water-ſide, and thence Shipped: This is not done without paying ſome ſmall acknowledgment to the Governour for the pains of the *Negroes*, who alſo make heaps when need requires, of that which the Lake yields; much tribute is not exacted, in regard Salt enough may be had elſewhere for little or nothing, yea and in many places the Rocks afford great hard pieces or Logs of Salt made only by the Sun, particularly at *Dartmouth* in our Channel as one of his Majeſties Cooks informes me, ſuch are to be had. The Iſland affords no good Harbour againſt Storms, yet Ships may ride near it in Water either ſhallow or deep enough: At preſent we have a fair Correſpondence there, which was once interrupted, by reaſon an Engliſh Ship Robbed them of ſome of their Servants, *&c.* And ſold them for Slaves at the *Barbados*, which injury was avenged on a *Plymouth* Ship that next Arrived.

5. *Of Salt made from Brine, raiſed by the Sun, purged and embodyed by Fire.*

SAlts of this kind are made at *Lemmington* in the new Forreſt of *Hants*, and about three Miles North-Eaſt from *Portſmouth*, which Town is ſituated in an Iſland called *Port-Sea* Iſland, from whence the Salt hath its Denomination.

The place where ſuch Salt is made, is called a Saltwork, concerning which the following particulars are requiſite to be inſiſted on.

1. The Quality and Situation of the Ground.
2. The Banking or Recovering the ſame.
3. The making of Brine-pans, and in them Brine by the Suns Exhalation, with the manner of doing thereof.
4. A diſcourſe of Boyling-Houſes, Grates, Iron-pans, and the Art of Boyling the Brine into Salt.

Of each of theſe in Order.

1. Of

1. *Of the Quality and Situation of the Ground for the most Convenience.*

1. THe Grouud as to Matter, ought to be a Sea-Mud, Oaſe or Sleech, Overflowed if it may be at the loweſt ſpring-Tide 3 foot, and whereas it is Obſerved that the higheſt ſpring-Tide, eſpecially if it be a ſtorm from the Offing, may be 9 or 10 foot higher than the loweſt ſpring-Tide; this renders Banking chargeable and hazardous, if not Land-lockt, or within a Creek or Arm of the Sea, where it is not annoyed with freſhes.

The reaſon of ſuch Overflowing is, that there may be made ſeeding Ponds, as they call them, with Walls of Earth, to keep Sea-Liquor in of any Dimenſions, two foot in height one above another, ſo that the Loweſt may be filled by a little Sluce in the Bank, at the loweſt ſpring-Tide; the reſt at other higher or ſpring-Tides, where this Liquor which is called Stay-Liquor will improve by the Sun and Wind, before it be tranſmitted into the ſhallow Brine-Pans, which are ſuppoſed to be made on lower Ground, ſo as to receive ſupplies from theſe Ponds whenſoever the ſame is requiſite. Theſe Ponds are repleniſhed with Fiſh from the Sea, as Mullets, Place, Flounders, Eeles, *&c.* Where they increaſe incredibly, and much exceed in goodneſs and largeneſs, freſh River Flounders and Eeles; and where there is convenience for ſuch Ponds, there may be likewiſe for Oyſter-Pits.

2. The Ground as to Quality muſt be a ſtrong Sea-Mud, of a nature like Clay, that will retain Liquor without tranſuſion: And if the Ground be not ſand, Gravel, Chalk, or Moor, 'tis probably fit for the purpoſe, and more proper than Clay, (as being of a looſer Body,) which is more difficult to be wrought, requiring three times the Labour, and is more apt to ſplit or crack.

3. This Mud for conveniency, ought to be eight foot or more deep, for the making of Ponds expoſed to the Weather, called Ciſterns, or common Receptacles to keep Brine in, without ſoaking away after it comes from thoſe Pans called Sun-Pans, where it it is ſuppoſed to be made ſufficiently

strong, and is transferred into these to grow more mature or mellow with Age: In these Cisterns the Brine may be impaired by Rain-water, in such Case that swims uppermost, and the Brine may be pumped from the bottom of the Pond, by square Pumps leaning on the side of the Bank, the bottom of the Pump being fastned into a Basket.

If one of these be covered over with a Tiled-Roof, it is called a Brine-House, to retain store for Winter Boyling; And a Tyled Roof is more convenient than Thatch, for when Repaired, the Strawes will fall into, and discolour the Liquor. The sides and ends of the Brine-House, ought to be Posts of Timber, with Hurdles behind them; the Ground being such as will not imbibe the Liquor as aforesaid.

If the Ground do not admit such Depth, these inconveniences cannot well be avoided; Cisterns must be made above Ground.

Into which the Brine must be Pumped or Laved, with great Charge and Labour, which the Workmen in wet-Weather will decline, to the loss of much Brine that might be saved.

The Brine in the Tiled Brine-Houses, freezeth not in Winter-time, but in the uncovered Cisterns, the Ryme or Fresh at the Surface will freeze, which ought to be removed.

2. *As to the Situation.*

IT ought to be such, where fair Sun-shiny-weather is most frequent, where the Wind may have free Access, near to a Coal-Mine, or a good Turf if possible; However not far from such Port, Creek, Harbour, or Mole, where Coals may be Landed, and Salt Exported.

If convenient choice can be made, it may resemble a great Pond, or Lake rising on each side, with a Channel in the middle of it, which being Banked athwart, will lessen the height of Banking, and consequently the Charge, and if it be in a Salt-water River Land-Lockt, the Bank is more secure from dangerous Breaches, that may be made in it by the Sea.

Near

Near the Channel in the middle may be made a Key, whereon to Land or unload Goods, from Veſſels that come up, or go down the Channel, athwart which in the deepeſt part may be made a Sluce, with ſtrong Gates or Portals like Shop-windows, with Hinges that ſhall open Sea-wards to carry off Freſhes or Floods, and when the Sea comes in ſhall ſhut and keep the ſame out, and towards the Land may have other Gates to be drawn up with Windlaſſes.

It may be objected, *that theſe qualifications ſeem ſomewhat difficult.*

Anſwer, 1. Places enough may be found if Encouragement be not wanting.

2. It maybe there are but few more neceſſary, *viz.* one in the *Weſt* of *England*, where *Hamoſe*-water near *Plymouth* is conceived to be a proper Place, and the like ſome ſuggeſt concerning *Falmouth.*

Poſſibly another more Northward might be deſirable and that might be at *Jarrow Slyke*, a little within the Mouth of the River *Tyne*, (or *Newcaſtle*) to the incredible advantage of a Northern Fiſhery, for Salmon, Cod, and Herrings, but of this more hereafter.

3. *Of Banking in, and Recovering the Ground.*

THis is to be performed by aid of *Ginn*-Boats, to drive into the Mud rows of Trees, and Poſts ſharpened at the Lower end, to ſhape out a Walk.

Theſe Trees to be bound together long-ways, and broad-ways like the Rib: of a Ship, with ſlitterns or pieces of Oak, or croſs Bars; And after good ſtore of ſtones have been thrown into the middle and parts adjacent to the Channel, where theſe Trees ought to be thickeſt and longeſt, the ſame to be boarded up and the whole to be filled, as and when it ſhall ſeem meet, with Stones, Gravel, Clay, *&c.* which will force the Mud out on each ſide, and beget a Declivity, which Seaward may be hardened with Gravel to become

come a narrow Walk, whereon to stand to drive in Stakes as occasion shall require, whereto to fix Hurdles or Hedges, which will be filled with Sea weeds, and will much defend the Bank from being washed down by the Waves, or dashings of the Water in Stormy-weather.

'After the same manner many of our bad Roads may be mended, particularly one called *Battleton-Lane*, near *Hockly* in the '*Hole*, is so bad in Winter-time, and so full of deep Slowes, 'that Wagons cannot pass it without great difficulty, and di-'vers Teams to draw them through, with hazard of overthrow-'ing, which forces them to give over and Travil with Horse-'Packs, yea in the middle of *September* last, when the Wea-'ther was good, it was very troublesome.

In the Banks aforesaid, besides the great Sluce in the Channel, there must be divers little Sluces of different heights, according to the difference of Tides, to let in Sea-water, to replenish the feeding-Ponds before mentioned.

The Bank being made, and the Sea kept out, after a hot Summer or two, the recovered Mud will become dry, rugged, and full of great Cracks, Clefts, and Chasmes, which must be filled up with Earth, and the Ground reduced to feeding-Ponds as before mentioned, and the rest to Levels for Brine-Pans. Of the Mud thus recovered, may be made excellent Bricks; this kind of Earth being of a durable conservative Nature, such of it as is designed for Tillage or Pasture Ground, must be deep Ploughed up and Harrowed, that Rainy-water may wash the Salt out of it, or that it may be cured with Lime or Marle, and when so done, proves a most admirable fertile Ground, for Grass and Corn, and is often used as a Compost to improve Barren-Land. See *Philosophical Transaction*, N° 54, Page 179. where you will read, that Ground where Salt or Brine is spilt, is when dug up excellent Muck for Grazing Ground, and even the Bricks that are thoroughly tinged with it, are very good Muck, and will dissolve with other Muck, and fertilize Grazing Ground considerably for at least 4 years.

Of the usefulness of Salt, in rendring Land fertile.

TO which we shall annex divers instances of the like kind taken from Mr. *Hartlibs Legacy*, Sir *Hugh Platts Jewel House of Art and Nature*, which he says page 128, were found out by meer chance, and not by Industry.

1. The first was of a silly Swain, who passing over an Arm of the Sea with his Seed Corn in a Sack, by mischance at his Landing fell into the Water, and so his Corn being left there till next Low-water, became somewhat Brackish, yet such was the Necessity of the Man, as that he (notwithstanding that he was out of all hope to have any good success thereby, yet not being able to buy any other,) bestowed the same Wheat upon his Plowed Grounds, by the advice of a worthy Gentleman who imparted the same. In fine when Harvest-time came, he reaped a Crop of goodly Wheat, such as in that year not any of his Neighbours had the like, yet the Experiment hath not been further prosecuted.

2. A Person of his own Inclination, sowed a Bushel of Salt long since at *Clapham*, upon a small patch of Barren Ground, which to this day remains more fresh, green and full of swarth, than all the rest of the Fields about it, but this he did not prosecute further, in regard a Bushel of Salt costs more than two Loads of Dung.

3. It is the daily and usual practice in the Western parts of *England*, for the people to carry their saltish Sands into their Barren Grounds, whereof some of them do lie five Miles distant from the Sea, and find the same exceeding profitable, for that thereby their Inheritance is enriched for many years together.

More particularly, Mr. *Carew* in his *Survey* of *Cornwall*, relateth that they use a fat Sea-Sand, which they carry up many Miles in Sacks, by which they have very much improved their Barren-Lands.

4. The surrounded Level at *Erith*, hath been most superlatively commended for its fertility, in those two breaches which are now Banked.

5. At

5. At *Namptwich*, upon the fall of any great ſtore of Land Waters into their Pits they are forced to empty and draw out all the freſh-Water, which always floates upon the Brine, and to beſtow the ſame in ſuch places as are neareſt, and therewith alſo emptying ſome of the Brine with the freſh-Water, they find in time this Earth ſo ſtrongly ſeaſoned with theſe brackiſh-Waters, that no Soile or Dung is comparable unto it, for the manuring of their Ground.

6. In the Salt-Marſhes of the Iſles of *Xaintoign*, there are little Hillocks on which is mowed as good Graſs as in many other places: And thoſe Hillocks do come up of the Grounds and Waſhings, thrown up from the bottom of the ſaid Marſhes, which are as Brackiſh as the Sea-water; and yet nevertheleſs ſaith Sir *H. Platt*, page 104. I did never ſee any fairer Corn in my Life than groweth in them.

7. The Vines of the Country of *Xaintoign*, which are planted in the midſt of the Salt Marſhes, do bring forth a kind of black Rayſin, which they call *Canchets*, and whereof there is a Wine made that is nothing inferiour to our Hypocras, in which they uſe alſo to dip their toaſted Bread; and their Vines are ſo fertile, that one Plant of them doth bring forth more Fruit, than ſix of thoſe that grow about *Paris*, ſo that 'tis evident, that Salt doth help the Goodneſs, Sweetneſs, Maturity, Generation, and preſervation of the ſaid Vines; alſo the Air it ſelf is benefited thereby, albeit here is no deſign to prove that common Salt agrees with all kind of Plants, yet all manner of Fruits Planted in the Salt-Marſhes of *Xantoign*, and all wild Herbs, Thornes, and Thiſtles proſper ſo exceedingly there that no where better.

An Advertisement imparted by the Learned and affable Doctor Robert Wood, *to prevent the Smuttiness of Wheat.*

8. IN the South-West of *Surry*, their Wheat-fields were formerly much annoyed with Smut or Brag, *viz.* A black dust in the Ear instead of Corn, which they never failed to cure in the manner following. To wit, they made a strong Brine of a peck of Salt, dissolved in about 5 or 6 pecks of water, in this Brine (a little warmed,) they infused all Night about two Bushels of Seed-Wheat, namely what they intended to sow the next Day. The next Morning early they powred the Brine and Wheat in it, into a large Basket, or Flasket set over a clean empty Cask to receive the drayned Brine, and then let it stand to dreyn or drop, till themselves had Breakfasted, and their Plow-Horses foddred; the Brine they preserved till Night, for the like use, with some little addition of Water and Salt: The Wheat they powred out upon a clean Floore or Pavement, and mixed with it some slacked Lime to dry it, and make the Grain (which thus resembles small Comfits) separate from one another in Sowing, and so carry it into the Field and Sow it: The Crows and other Fowl finding it too hot in the taste will not Eat it, as they usually do other Seed; Smutty grain thus Sown, yields a clean Crop, and the Salt and Lime together do contribute some warmth, as well as lust and heat to the Seed, and help the defect of other Manure.

This is used in several other parts of *England*, and upon tryal it will be found, that if one furrow be neglected, that will Miscarry, whereas another that is not, is remedied.

To which Experiences divers Reasons may be added.

1. Mariners can attest, that such Waters as be somewhat brackish are best for long Voyages, and therefore they do often fill their Cask at Springs near the Sea, and even good Waters, by ayd of a little Salt may be kept sweet and saved longer than ordinary.

2. Such Springs as are offensive in smell, or that have any bad or corrupt tast with them, are no way better to be purified and cleansed, than by casting Salt into them, and generally Waters become more deadly and contagious, by their putrified and offensive smells, than by their Saltness.

3. Habitations on the very Sea-Coast, prove generally wholsome, the saltness of the water not tending to Destruction unless in the dead Sea, or Sea of *Sodom*, which engendreth no living thing.

4. Salt-waters themselves are most fruitful, neither is there any place in the World, where that generative virtue doth more abound, or where there is more generation or Multiplication of Creatures than in the wide Ocean.

5. Certain Plants and Fishes prosper best in the Salt waters, as Samphire, Flounders, Place, Mullets, Eeles, Oysters, and divers other sorts.

In the Brine-Ponds of a Salt-work. And in *Xantoign*, (saith Sir *H. Plott*, besides what is before mentioned,) is an Herb from which is extracted *Sal Alcali*, another called *Salicor*, whereof beautiful Glass is made.

Also Wormwood with this property, that if one do Boyl the same, and with the Decoction thereof temper a little Meal and make it into Past, and fry the same either in Lard or Butter, and Eat thereof, it will expell all such Worms, as are either within the Bodies of Men or Children, which the Author did not understand till he had six Children Dyed of the Worms, as he manifestly perceived in Anatomizing their Bodies, as also for that oftentimes they voyded them at their Mouths, and when they were drawing to their end, these Worms would issue at their Mouths.

6. Rain-water hath a more fructifying virtue and Saltness in it, than fresh Riveror Spring water, hence the Clouds are said *to drop Dew*, Prov. 3. 20. The Lord in *Amos*, 5. 8. and Chap. 9. 6. Declareth, *it is he that buildeth his Storees in the Heaven, and hath founded his Troop in the Earth, he that calleth for the Waters in the Sea, and powreth them out upon the face of the Earth, the Lord is his Name*: According to his promise in Deut. 33. 28. *That his Heavens shall drop down Dew.*

Object.

Objections,

1. Brackish Waters are unfit to make Drink for Man's Body.

Answer, Nothing is more unsavoury in our Drink than Salt, because that our thirst doth naturally desire to be satisfied with that which is cold and moist, whereas Salt on the contrary is hot and dry, but hence it doth not follow that Springs which be somewhat brackish, are improper to water the Grounds.

2. To Man and divers other Land-Creatures, the eating of much Salt is very contagious, because it maketh the Blood Salt, and breedeth Barrenness in Man's Body, by the exceeding dryness thereof, and maketh our Seed or Nature too sharp.

Answer, Salt moderately used is stirring in our Bodies, it whitens, hardens, and savours all things, as Beef and barrel'd Cod, *&c.* Which causeth Vegetation, and gives good nourishment.

3. In Holy Writ we read *Judges* the 9. 45. *That Abimelech when he took the City of the Shechemites, beat it down and Sowed it with Salt.*

And the Psalmist, *Psal.* 107 34. Saith *He turneth a fruitful Land into Barrenness,* (Heb. *Saltness*) *for the wickedness of them that dwell therein.*

Whence it may be urged, that Saltness is a principal means to make the Ground unfruitful, and the sowing of Salt thereon, bringeth forth Barrenness, and a Curse upon it.

Hence some humane Laws of our ancient Fore Fathers seem derived: Namely, That all such Ground as became forfeit and Confiscate to the Crown, by reason of a high and Capital offence committed, should be Plowed and Sowed with Salt.

Answer, 'Tis granted, that to lay on too much Salt, through its corrosiveness it doth burn dry, and renders the Ground Barren and unfruitful.

And such is Mud Ground recovered from the Sea, till it be prepared for Tillage and Pasturage, as before is mentioned in page 22.

On the contrary, Grounds that are wrought out of heart, are unfruitful for want of Salt, and Barren-Grounds are improved by Dung which is laid thereon, which could no way enrich the same were it not for the Salt, which the Straw and Hay left behind them by their Putrefaction.

This premised, the Author proceeds to give an Account

Of the moderate use of Salt in fertilizing Land.

1. HE adviseth, that they begin with small practises on arable Lands, before they proceed to Pasture or Meadow.

2. Not to overflow any Grounds already Sowed, or intended to be Sowed, with their Grain, but rather some waste Ground or other, which after it hath been glutted with Salt-water divers times, and then reposed it self a sufficient time, might serve instead of Marle, or other Dungs to spread abroad upon their Barren Corn-Grounds.

And this is so well performed, where there is not any artificial Observation at all made, to wit, at *Namptwich*, that any one that hath conferred with them about the same, may effect the like in any parcel of Land, bordering on the Sea, or any Arm thereof.

Yet the Brine of those Pits, yields one third, or one fourth part Salt, whereas the Sea-water doth not for the most part contain above an eighteenth or twentieth part of Salt, which is a great disparity, but that much Land water is also Laded out of these Pits with the Brine.

More particularly to fertilize ground with Salt, the Author directs, that before the Ground be Sowed, there be mingled two bushels of Bay-Salt, amongst two bushels of Winter-grain, and disperse them together on the Ground, and you shall find a good increase of Corn, and the Land it self much bettered and cleared of Weeds, as he hath been credibly informed.

Paliſſy a *French*-Man affirms, that Salt doth cause divers places about *Rochel* to be fertile.

Mark-

Markham, an experienced Husbandman, preſcribeth common Salt, always to be mixed with the Grain, for obtaining incredible Crops. Laſtly, The Lord *Bacon*, whoſe Authority is of good credit with us, attributeth fertility to Salt.

After the Bank is made, and the Land well recovered, dwelling Houſes for the Owners and Salt-Workers may be Built, near to the Bank, the better to Watch, repair and ſecure the ſame, and to ſave charges in the Carriage of Goods more remote: Nor is a Habitation juſt next the Sea unhealthful, as is evident from many places on the Coaſt, as *Haſtings*, *Rye*, *Deal*, *North-Yarmouth*, *Whitby*, *&c.*

4. *Of the making of Brine-Pans, and Brine.*

SUppoſe the level Ground aforeſaid be divided into ſquare Partitions, like Earth-beds in a Garden, or like three rows of ſquare Trenchers.

Three of them are called a Rank, to wit in the Figure adjoyning, W is called the Water-Pan, 2 the Second-Pan, and S the Sun-Pan, and ſo in the ſame piece of Ground may be made as many Ranks as the Dimenſions thereof can admit.

S	S	S
2	2	2
W	W	W

Each of theſe may be two Rods or Poles ſquare, with Ridges of Sea-Clay between each, for a Man to walk upon.

Theſe Pans muſt be ſmooth and Level, to be floated alike all over, to accompliſh which, Water it ſelf deſigns a Level.

Theſe are made ſuch, by Men walking on them with Boards tyed to their Feet called Glib-Boards, who with Iron Rakes break the Clods, and with Wooden Rakes like Kennel-Rakes, or Boards of about 2 foot long, ſmooth the Ground, which is moiſtned with Water.

On the outſide of the Water-Pans, is a little Channel of Sea-water, derived from the feeding-Ponds, that lye upon higher Ground.

Out of which Channel, after the Water is ſetled, and the Pans ſeaſoned, each Water-Pan is filled about three Inches deep with Sea-Liquor, where after it hath been expoſed to the

the Sun and Wind in a fair hot Summers day, two Inches of it may be derived into the Second Pan; and after it hath likewise been exposed there, one Inch of it or less is to be derived into the Sun-Pan.

The transferring of Water or Brine from one Pan to another, is performed by a Man with a little Paddle as broad as the Palm of a Mans hand, with which he turns out a Clod that opens a passage for water, from each Pan to the other, and when the Liquor is run, puts it in again, with cemented Mud.

A skilful Brineman will govern and direct 3 or 4 Labourers, he may himself Earn 8 s. a Week, and in Harvest weather more: One skilful person, can mannage and look after 60 rank of Pans.

On the out side of the Sun-Pans, is a little Channel made to convey the Brine (in common from them all) to a large Pan, any where conveniently Seated, called the Common Sun-Pan, which may be so deep as to be filled 7 or 8 Inches with Brine, where it may remain mellowing from 6 to 24 hours, or till the Liquor bears a Hens-Egg new laid, till it floats above water the height or breadth of a Threepence or a Groat, or till it be so strong, that the Egg lies along in it half above water.

Here it may not be improper to intimate, that the ingenious Mr. *Richard Walker*, chief Gauger of the Excise Office, besides his other Qualifications, hath great skill in Glasses, and Glass-Working, and hath invented a Glass, with a liquor in it hermetically Sealed, which doth by its depth in swimming in Wort-Liquors, and Wine, determin the strength thereof, which doubtless might be properly applyed to Brines.

The Brine in these Pans being found of a sufficient strength, is from thence derived by Channels or Brine-Currents to those Ponds called Cisterns, where the Rain and the Sun breed red Worms, that cleanse and purify the Liquor, where it ripens or mellows by Age, and grows the more fit for Boyling; Old Brine far exceeding that which is New: Between the Cistern and the Tiled Brine Store-House, there ought to be Pipes under Ground, to convey the Brine from the former into the latter; In which pipes there are Stop-Cocks,

and

and other Pipes let into the former, from whence the Brine of either, as shall be thought fit, is to be pumped up by Windmill-Pumps that have Crankes like the handles of Wimbles, and conveyed by the latter Pipes to Wooden Clearers, (like Brewers Fats or Coolers,) at the Boyling-Houses.

In Mr. *Alcornes* work near *Portsmouth*, is a notable Windmill-Pump, that raiseth the Brine about 24 foot high, to wit, Pipes go away from the bottom thereof, which is not above half a foot under ground, in a declivity, or leaning on one side to the Pipe in common between the Cistern and the Brine-Store-House, and so the Pump doth from either raise it about 12 or 14 foot on one side, and forceth it 10 or 12 foot higher in the former Pipes, continued on the other side to the Clearer at the Boyling-House: The foot of the Windmill-Pump, resting in and moving round in these Pipes, with two Clappers on each side, to keep all Liquor drawn up from running back, that when the one is open, the other is shut.

And here perchance it may not be improper to mention, that Sir *Samuel Moreland*, hath lately invented an Engin, that forceth Water in a continual Stream, without Starts, much higher than the Banquetting House at *Whitehall*, and the like at *Windsor*, above the Castle, to his Majesties great satisfaction, and his own great Renown.

The querie may be, whether the same be not Applicable, to the conveying of Brine from one place to another?

The Brine raised by the Sun as aforesaid, proves better than any natural Brine of Pits hitherto known, most of those being either too weak or too strong, and not mellow with Age; yea and better than any Brine made by melting of Forreign Salt in Sea-Liquor.

The shallow Pans aforesaid in Rainy weather in Summer, are kept floated, to preserve their bottoms; and in Rainy weather in Winter, are left open, to be washed clean, and made hard by the said Rain, to carry away the Flip, or Slime in Currents: And in *March*, or *April* following, 'tis usual to cleanse the said Pans, and for preparation, to float them with no more Salt-water, than will wet them.

There will grow in these shallow Brine-Pans, Samphire, of a far more excellent kind and taste than that, that is gathered from

from Rocks in the Sea, and ſuch as is by ſome Phyſitians much coveted for the cure of certain Diſtempers.

In *Staffordſhire*, and other places, are Brine Pits that yield a Liquor ſo weak, that a Pan muſt be thrice fill'd, and Boyled half away each time, before it be ſtrong enough to Boyl for Current into Salt.

Were it improper to try, whether the ſaid Brine might not be ripened on Clay, *&c.* Or on Mats by laying as in page 7, and thence meaſures taken, to avoid ſo great trouble and expence of Coals in the Boyling?

5. *Of Salterns or Boyling-Houſes, Grates, Furnaces, and Iron Boyling-Pans, with the Art of Boyling of Brine.*

A Boyling-Houſe is called a Saltern, and ought to be Built near to the place from whence the Brine is to be ſupplied, of a ſize ſuitable to the number of Iron-Pans, that can be there employed.

Theſe Houſes are but one Story-high, of Stone or Brick, and ſo thatcht up to the Top, (like Barns,) but muſt be left a foot open in the Ridge, for the ſteam of the Boyling-Liquor to paſs through.

Each Boyling-Pan will require a Furnace, and a Grate under it, but yet one Brick-Chimney paſſing through the Thatch, will ſerve to Convey away the Smoak of the Furnaces of two Pans.

The Fireplace under the Boylers, or Boyling-Pans, is built with Brick, ſquare, ſloping on each ſide like a Ridge or Millers Tunnel, at ſuch a height that a Grate may be plac't 3 foot above the Ground, and the Boyler two foot and three quarters above the Grate.

The ſloping aboveſaid is to be ſuch, that the Grate may be three foot and a half long, and three foot broad.

This Grate is to be made of wrought Iron, the Bars in length according to the Dimenſions above, in thickneſs and in breadth alike, to wit an Inch and a quarter, each of them

to

to stand asunder near half an Inch, and to have two or three Bars athwart under them, to support them all.

The Ground under them is to be the Receptacle for the Ashes and small Cinders that fall from the Grate, and is to be Arched up like the Mouth of an Oven, that the Fire on the Grates may draw the more vent.

The Grate is to have an Iron Door, at which it is supplyed with Coals, and on each side another little Iron-Door, called a vent hole, which Doors are to be opened or kept shut at pleasure.

Of Boyling-Pans.

THese are either made of cast Iron, or wrought Iron; those of cast Iron, may be 7 foot and a half long, 5 foot broad, and 9 Inches deep.

This sort of Iron is made in *Sussex*, *Hants*, *&c.* Of it are likewise made Iron Guns, and Backs of Chimneys, and it is much cheaper, and fitter for this use than wrought Iron, in regard it will serve at any time to make Bar-Iron, and is not devoured by rust, as wrought Pans are, being as good as Sow-metall.

Some Pans are cast in four pieces, which must be rivetted together with Bar-Iron, and the Holes and Cracks stopt up with Putty, and the like is to be done when a Cast-Pan Cracks.

To cast a Pan, to wit, Bottom and Brims, all in one piece is a Mystery; some that have attempted it, have failed in the success, the Air in the running of the Metal, making a hole through the bottom of the Pan, which indeed is at the Surface or top of the Sand. But however it may be thus effected.

Lay two wisps of Pease-straw cross one another, a hands breadth under the Edges and bottom designed in the Sand on which the Pan is to be cast, so that their Ends may come into the Air above the Sand, in which the bottom after the manner of Plummers is supposed to be turned upward: The Iron when it runs, will press the Air, and make it force

a passage with a huzzing noise through the Wisps, avoiding the inconvenience aforesaid.

And Founders affirm, that besides Kitchin Pots, other large Iron Pots are cast at *Bromwicham*, and at *Pool-Bag-Mill*, within 8 Miles of *Coventry*, and at other places for the use of Metal Men: And here at *London* at *Tower-Hill*, are to be seen deep round Iron Pans capable of holding more than a Hogshead or two, with knobs on their sides to support them, all cast entirely at once, said to be made for the use of Soap-Boylers, and for the refining of Sugar, Salt-Petre, *&c.* and are cast, possibly after the manner of Bells with a vent at the bottom; and one of the Founders Servants alleadgeth, that shallow cast Salt Pans may be made by them after the same manner, of such fitting Dimensions as shall be thought convenient.

A Pan of the Dimensions aforesaid all in a piece, may weigh about 20 *C.* or a Tun.

Wrought Iron is made in the Forrest of *Dean*, and comes from *Bristoll*; 'Tis said to be wrought, because 'tis refined at the Forge, with much Labour and Cost, and not only made into Plates of divers sizes, but likewise into Bars for Wheels, Nails, Locks, Horseshoes, *&c.*

Boyling Pans are likewise made of this Iron, to wit, of Plates 20 Inches square, which are thicker in the middle by a quarter of an Inch, than towards the Edges; These are Rivetted together till they make a bottom of seven foot and a half, or eight foot square.

The Plates or pieces of the Brims, which may be had of any competent size, are thought convenient to be two foot and a half long, and about nine Inches high. All the Chinks and Clefts are as aforesaid to be stopt with Putty.

A wrought Pan of these Dimensions, may weigh about 7 *C.* or 8 *C.* weight Averdupoize, And according to the Workmanship, be in value from 25 to 30 *l.* sterling of currant Money, which is about 4 or 5 times as much as one of the cast Pans aforesaid of above twice or near thrice the weight.

Of the manner of making both cast Iron and wrought Iron in the Forrest of *Dean*, see *Philosophical Transaction*, N° 137. where the cast Iron is said to be so very brittle that being heated, with one blow of a Hammer it breaks all to peices, quite contrary to the nature of good wrought Iron.

But

But this aspersion on cast Iron is far from being generally true.

Of the Boyling of Brine into Salt.

FIrst, 'Tis supposed (as aforesaid,) that the Brine is by a Windmill-Pump conveyed into large Wooden Vessels, standing adjacent to the Boyling House called Clearers, for shape resembling Leaden Cisterns, Chests, or a Brewers-Coolers. These Vessels if exposed to the Air, as commonly they are, may sometimes entertain Rain-water, but not long, because they are perpetually filling with Brine, and running by pipes of 3 Inch-boar, (which may be stopt at pleasure with plugs like Spickets,) into the Boyling House, where it is received and conveyed by little Troughs into the several Boyling-Pans, where this Rain-water is soon Evaporated in the Boyling: The bottom of these Vessells,(to render them secure from Leakage) are Calked like the Decks of a Ship, And they must be placed as high as the Brine may run in a free Current to the Pans as aforesaid.

And now supposing the Boylers to be properly seated and cemented about with Morter over the Fire-place, to keep in the heat and smoak, and then filled; the next thing is to kindle the Fire, which may be done with such large Sea-Coal as will both cake and flame, such are known by breaking and tryal in a Forge, and the small are thrown in at top by degrees, to maintain the Fire, which may be done as well with Peat where it cannot be had.

If the Brine be strong, the Pan need not be quite filled.

After a vigorous Fire has been maintained two Hours or more, and that the Liquor begins to hew, and is ready to kern or granulate, which is known by a little Cream or Surf at the Top, then it is time to skim, which is done by raking the frothy surface of the Liquor to a corner of the Pan, from whence it is skim'd off and put into Tubs like Ale Tubs, with a Tap at the bottom, that after a standing or setlement, the Liquor or Brine at the bottom may be drawn off, to serve again.

The quantity that may come off from a Pan, may be four or five gallons, but in boyling up or refining of *French* Bay Salt, the dirt and scum is exceeding much.

The next thing to be done is to separate the Sand, All Brines whether of Pits or made of Sea Liquor, or by melting of Forreign Salts, in Boyling petrify and yield a Sand, which cannot be conceiv'd to be in the Liquor before boyling: For a strong Brine hath been dreyn'd or squeez'd through most pure Holland of eight foldings, and no symptom of any Sand was left remaining.

The Pan boyling violently in the middle, this Sand is cast outwards towards the Corners, where in *Cheshire*, and *Worcestershire*, they place small Iron Pans to receive the same; But it being found by experience, that this Sand will fall to the bottom of the Pan before the Salt precipitates, it is with a Board-Rake, Raked to one corner of the Pan, and then taken out with Ladles and put into Wooden Vessels called Pots, like Wheel-barrows, open at one end, which are placed upon Stands or Beams under the Clearers. This Sand is pure white, and resembles a massy Snow-ball, and being dug and stirr'd, there will run away Brine from it, to be reserved in a receptacle underneath, for further boyling.

This Sand will naturally cake to the bottom of the Pans, and is admitted so to do every boyling, till the same be smooth and fit for the Rake.

And much of it that will stick to the sides is forced off with a driving cutting Hammer, once at least in three weeks, and is made use of for Clods, and Ridges between the shallow Brine Pans.

A Pan may yield two or three Gallons of this Sand, if the Brine be new and foul, which being removed, to make the Salt, hitherto swimming and floating in the Liquor, precipitate or fall to the bottom, shut the two Vent-holes near the mouth of the Grate and the Door thereof, and then the smoak for want of Vent stifles and puts out the Fire; And after 12 hours time the Salt will be faln to the bottom and become hard, and there will remain a Liquor at the top, which being boyled away or continually Evaporated renders more Salt.

'Tis

'Tis uſual to keep Boyling all the Week Days and Nights, from Monday Morning to Saturday Noon, and then put out or ſtifle the Fires as aforeſaid, till Monday, and proceed as before.

Were there no other Method, this were in effect to loſe much time and give over Working. To prevent which, in *Cheſhire*, &c. to make the Salt precipitate and fall to the bottom, they uſe Eggs, Blood, Ale, but after much experience the Remedy following was found out, not only to make the Salt ſink, but likewiſe to harden the ſame.

Take Oxe (or Stags) Tallow well refin'd, and melt it, and put it into Lees of Wine, the like quantity in weight or meaſure of each: And this is a good proportion for old Liquor. But if New, there muſt be leſs of the Lees and more of the Tallow.

After the Skimming and taking out the Sand, And that the Fire hath been ſtopt till the Liquor becomes quieted, then uſe the ſaid Compoſition of Oxe-Tallow and Lees: To wit, take the quantity of a Nutmeg of it at the end of a Lath, and turn it round about on the ſurface of the Liquor, till it be ſpent, Then after 2 hours at moſt, open the Vent holes or Doors, quicken the Fire, and Evaporate or boyle away the Liquor, and you will have the Salt lying as it were in a puddle at the bottom, made and fit to be removed. Now to ſave the Pans from cracking or burning, they throw on freſh Coals and ſhut the Door and Vent holes of the Fire place, and the Fire is again ſtopt. Then the Salt is to be raked up to one ſide, taken out and put into dreyning Cribs, which are made like Hay Racks, with looſe Ribs on each ſide to take out, that ſtand ſo near to one another, that there is but room to put in a Mill'd Crown or half Crown, where after it hath lain dreyning in the Boyling-Houſe the ſpace of 6 or 8 hours, it is a pure hard kerned Salt, and may be removed, but yet will continue dripping three Weeks or more, and in the event with Age, (unleſs often moved) will become Rocky.

The Liquor in the Pan which is placed a little inclining towards one corner is called Bittern, which (all but a little to keep the Pan from burning,) is taken out and dreyned away with the Salt, and the Pan immediately filled with a freſh

fresh supply of Brine, for another Boyling. And then quickning the Fire proceed as before.

In 8 hours time a Pan of Brine of a moderate or fitting strength will be compleatly made into Salt, with the expence of one Bushel and a half of Coals, which will make a Pan of Salt, from two Bushels and a half of Salt, to four or more, according as the Liquor is in strength and goodness.

Five Men can attend 12 Pans, 4 of them attend Day and Night, And their Wages is about 11 shillings a Week, the fifth attends only in the day time, and his Wages may be seven shillings a Week or more.

The Liquor that Dreynes from the Salt in the Cribs, is a strong sort of Bittern, which is received on a Board underneath, that lies in a Channel or wast Current, that conveys away the Dreynings or Bittern into the Sea.

On this Board will fall some small or thin Salt, which after it hath layn and dreyned is saved, to heighten weak Liquor.

A Pan may yield from one Gallon and a half, to three or four Gallons of this Bittern, according to the season of the Weather the Brine is made in.

The Ashes being rich with dust of Coal and Cinder that will burn again, are used to make Lime withall, And though not ordinary or commonly known, yet is practised at the Lime Kills near *Bristol.*

And now the Reader sees what is meant by Sand, Dirt, and Bittern, it is fit to give an account of the mischeivous effects thereof, in all Salts incumbred therewith: And such are all Forreign Salts made meerly by the Sun, as *Spanish*, *Portugal*, but most especially *French* bay Salt. To wit,

1. The Sand, Dirt and Bittern, help to fill up near half the Measure.

2. The Dirt is so drawn into Flesh, and split Fish, that washing will not get it out; And this causeth the Fishmonger to pare his Cod, to make it look white like *Dutch*-Cured.

3. The Bittern in Refining of *French* Salt, is a Liquor separated from it, that resembles Sack in Colour, but Gall in Tast: It will naturally Embody in the Sun, and become a sub-

substance like Salt: It may be brought to a Spirit more vigorous than Aqua Fortis, that will suddenly dissolve Cast-Iron, Silver, Gold, or any sort of Metal.

Its Vicious Effects are, Namely,

As to Flesh,

BEsides in general a bad Taste, or a good Relish destroyed, the Moisture, Gravy, and Nourishment, in a little time is rendred as Salt, as Salt it self. Hence the Flesh becomes hard, afterwards very bad or unfit for Food, and at length is mortified or rotten.

As to Fish,

The Moisture and substance of it is so consumed that it becomes Rotten, and will not keep above six Weeks time in a hot Climate, as the Fishmongers alleadged before a Committee of Parliament.

The Consequences whereof, are,

IT causes Scurvies, Consumptions, and other acrimonious Diseases, in the Bodies of Seamen, or Soldiers in a besieged Garrison, that are compelled to the frequent and long use of it.

As to the Sand begot in boyling of Brine, a most skilful Preson in Glass, is about to make Experiments, whether it may not be of use in making of a most pure sort of Glass.

And as to the Bittern, the Honourable *Robert Boyle* Esq; hath made sundry Experiments with it, which we hope he will in due time make publick.

Moreover a learned Doctor of Physick is trying if the same may not be of use in Dying, and if it be mingled with Spirit of Wine 'tis said to be of good use in keeping of a Corps, or Flesh, long from putrefaction: Bittern will Em-

Embody in the Sun, and make a Body like Salt but useless.

If a Pan full of it be under boyled, it will all evaporate: *Cheshire* Salt-Workers call the Liquor that drops from their Salt, being put into Wicker-baskets, Leach Brine, which if boyled will speedily make a strong Salt, but they commonly mingle it with other Brine to hasten the boyling thereof. They deny that their, and *Worcestershire* Salt, is incumbred with any Bittern at all, and 'tis granted not with much, in comparison with other Salts, but it must also be affirmed, that the fierce fiery and corrovise Nature found in their Clod and Loaf-Salt, (like Sugar Loafs) is occasioned, by a plenty of Bittern in them.

Of Bay Salt.

OF the Art of making thereof see *Transaction*, N° 51. wherein it is described to be kerned or granulated in the Island of *Rhee*, (to which we also add the Islands of the Province of *Xantoigne*,) on Marshes or Sea-Mud by the meer heat of the Sun, in shallow Beds or Mud-Pans of about 15 foot square, and an Inch and an half deep, which are filled from Ponds derivative one from the other, of 20 and 10 Inches deep, and so gradually decreasing, thereby to convert Sea-Liquor into a strong Brine, that will kern in the Sun, after the manner of making Brine at *Lemmington* and *Portsea-Island*, before described, (which yet will not granulate without boyling) and on the same kind of Ground, which is said to be a fat Earth neither sandy nor spongy: If the Earth be Red it makes the Salt Grey, if Blew the more White, of the size of a Pepper-Corn, but of a Cubical shape.

And dry hard Salt of the like size, but free from Dirt and ill Qualities, is commonly made in *Portsea* Island and *Lemmington* aforesaid, and it is true both of that Brine and *Bay Salt*, (which is also made in the Ises of *Xantoigne*) that they can make more and better in Windy than in Calm Weather.

Both *Portugal* and *Spain*, being hot Countries, yield Salt made after the same manner or on Sand, as at *Jerbo* in *Barbary*, the Isle of *May*, &c. before mention'd.

Salt

Salt so made is laid a drying on Beds of Straw, and great heaps of it Thatched and covered over to keep it from Dews and Weather.

As to the Salt of the Isle of *May*, of which we have spoke before, the use of it as to *Herrings*, was long since Prohibited in *Holland*, the *Dutch* having found by experience likewise that *Bay Salt* was too big to be used about Butter and Cheese, discoloured the same, and Codd, did not dissolve soon enough thereon, and was improper for *Herrings*, did (it may be presumed for the three abounding ill Qualities of it, to wit, Dirt, Sand, Bittern, before insisted on,) forbid the use of it by Law, as appears by a Book Published by *Simon Smith* Agent for the Royal Fishing in 1641, in *Quarto*, Intituled, the *Herring-Buss-Trade*, expressed in sundry Particulars, both for the Building of *Busses*, making of deep Sea Nets, *&c.* With the manner of catching and curing the *Herrings* for Forreign Vent, together with sundry Placarts or Orders of the *Netherlands*, for the better Government of the said Trade.

In one of them of the 30*th* of *Aprill* 1632, the States of *Holland* and *Westfreezeland* acknowledge the said Trade to be one of the principal means of the happiness of those Countries, and the Regulation and Care of such Trade to be the cause of such Order.

The which being well known and considered, some few Years before his Majesties happy Restauration, an Undertaking was on Foot, to encourage and set up a good Fishery here, the which in the time of *Oliver*'s *Usurpation*, &c. miscarrying in the Womb, and his Majesty coming in not long after, fresh Collections and Endeavours were on Foot, to Renew, Propagate, and Enlarge such Design, and a Committee of his Majesties most Honourable Privy Council appointed to that purpose, and at divers meetings of the Privy-Council, Affairs of that nature Debated, particularly on the 17*th* of *November* 1663, his Royal Highness the Duke of *York* being present, Sir *Richard Chiverton*, Sir *William Batten*, and Sir *William Rider*, were by his Highness and Council desired to meet amongst themselves with whom else they thought fit, to draw up Proposals for the Advancement of the Royal Fishery; Pursuant whereto, they were attended by Mr. *Simon Smith* aforesaid, Mr. *John King*, and

Mr. *Thomas King*, with several papers of Proposals, amongst which one was.

That the *Hollanders* Laws and Orders about Salt, (and Fish) set out in the Book called the *Royal Herring Buss Trade* (aforesaid) should be printed, and the Fishermen to observe the same (till better could be agreed on,) The which having not been yet done, I humbly digest and tender as followeth.

The 28th. *Article whereof is,*

THat no body from henceforward, shall dare to salt the Herrings with any *French* Salt, either *Seuctlers*, *Olderdoms*, *Buocue*, *Saint Martin*, *Brouage*, *Straight*, *West-India*, and the Isle of *May* Salt, upon forfeiture of the Herrings that shall be pickled or salted therewith.

The 25th. *Article.*

That no Steersman or others, from henceforwards may carry any Salt to the Sea in their Ships, for to salt Herrings therewith, but *Spanish* or *Portugal*.

Article 24th.

That no body shall put any *Spanish* Salt, or *Portugal* Salt in Chests, Cellers, or Barrels, before the same shall be Visited and Appraised by the Rate-Masters thereto appointed, on a penalty of 25 *per Cent*.

Article 25th.

The *Spanish* and *Portugal* Salt to be viewed by the Rate-Masters, before the same may be taken on Board.

Article

Article 26th.

The Steersman shall be bound upon the Command of the Rate-Masters, to beat open by his Mariners, and to shut again the Barrels of Salt: The Ratemasters each time to have for their Appraisement and Visiting each barrel of Salt a Doyte, to be paid the first time by the Seller, and the second by the Buyer.

And by the 25th. *Article.*

If a Steersman shall have salted Herrings with Salt, not having been the second time Viewed as before, he shall forfeit 36 Gilders.

And by the 6th. *Article.*

The Steersman is to make Certificate of the Quantities of Herrings by him Caught garbished Salted and Packed on board, in due time, and delivered in the Place Appointed: To which, by *Article* 25th. he must also Certify that the same are Salted with good Appraised *Spanish* or *Portugal* Salt.

Article 27th.

And in case of the Rating of the said Salt, any Deceit were found to be done, in the Cask or Cellars, the Vender thereof shall forfeit 200 *Carolus* Gilders.

Article 30th.

The Steersman going for Herrings, shall be bound to salt the pure Herrings caught after St. *James's tide, Bartholomew-tide,* or *Crux-tide,* whereof Men desire to pack Circle or Burnt, with small Salt Boyled of Salt, according to a Contract made with those of *Collen.*

Article 31th.

No body shall receive any such white or small Salt, but by a due Certificate from the place where the same Salt is made, upon forfeiture of the Salt. The Ship Master who brings the same Salt from the place where it is made, to certify the same Salt is not altered, nor to their knowledg diminished, since the time they took or received it into their Ships, and that the same is left in being according to the Contents of the Certificate, upon forfeiture of the Salt, in case the Ship-Master is owner thereof; and in case not, upon forfeiture of the value thereof, to be Recovered of his Person, Ship, and Goods, And that he moreover shall be punished for Perjury, according to the former Contract with the Deputies of *Collen.*

The *Dutch* go as far as *Sheteland*, a Fishing towards the North of *Scotland*, and so following the Herrings to the *Dogger Bank* draw nearer home, where the Fish they Catch is to be Repacked, Viewed and Rated, before it be Sold and Exported, only some few Chafers or Drivers, not belonging to those Herring Fishers of *Holland* and *West-Frizeland*, are allowed to go to Market with Fish between the 25*th.* of *June*, and the 15*th.* of *July*, and are called Summer-Herrings, which are to be spent presently, in regard they are very fat, and will not endure Repacking; here we may say that fat Herrings are kept better with refined Salt.

By the former Articles may be observed, how long they were each year permitted to use *Spanish* and *Portugal* Salt unrefined, and when to use refined Salt. And by the following Articles may be observed how careful they are to send the best Herrings abroad, and spend the worst at home, to wit,

By Article 3*d.* Fresh Herrings brought on Shore, are not to be fitted for Exportation; by Article 32, no other pickled Herrings shall be carried into *France*, *Flanders*, or further Westward, but the Great *Roan* Brandt Herrings caught and packt after *Crux-tide*, (with refined Salt as in Article 30.) Nor shall Herrings be carried to *Bremen*, *Hambrough*, *Collen*, and other Places, salted with course (unrefined) Salt from

from bottom to bottom, these being as well full as shotten, to be Sold for no other but sowre and refuse.

And by Article 33. Packers, Coopers, Wharfmen, are prohibited to pack any course salted Herrings, either full or shotten from bottom to bottom.

From the premises it may be well inferred, That an Assay of Salt to be Established by Law, is in many respects more needful in *England*.

1. Because it is to run too great a hazard of Mens Lives or Wellfare, to salt the Provisions of a Ship or Garrison either with a bad Salt, or ignorantly. And the like may be said of a Fishery Enterprize, whereof most hitherto undertaken have miscarried through the badness of the Salt used.

2. Because there are more sorts of Foreign Salt Imported into *England* than into *Holland*, And why should not the like care be used here as there.

3. Because there are some sorts of weak wateriſh Salts made bad in *England*, to save Charges, when they might be made dry and good.

4. Because the Virtues and use of the best sorts of Salt are known but to few, consequently little desired; And untill they are, the people are liable to abuse. And such an Assay might be a means to make them more known, at home and abroad.

5. Because for not knowing and using of a good Salt to cure Herrings on board at Sea, the Fishermen have been forced to sell them to their Hosts on shore by Contract to salt, at so low a rate, that they could not live on it. Hence the Coast Towns became much depopulated and impoverished; hence much weak or ill salted Cod hath been dried and turned into Haberdine, that yielded but a very sorry Rate, in comparison of what it might have done.

The assertion as to Herrings is avouched out of a Printed Paper presented to Parliament called the Case of *South-Town, alias* little *Yarmouth* in the County of *Suffolk*, one Article therein runs thus.

The Fisher cannot sell his Herring to any Man but his Host in great *Yarmouth*, (which might not be used but only in the case of Merchant Strangers,) nor can he capitulate with the Host for price, but must take what the Host pleases

to

to give for them, by which means the Fisher oftentimes sees his Herrings sold before his Face to Forreign Buyers, for almost double the rate he receives.

And in case of a plentiful Fishing, the Fishers are forced to carry their Herrings to *London*, or other Ports at great distance, and thereby lose the rest of the Season of Fishing, or throw what they have taken overboard, that they may return to catch fresh for other Ports, because the Freemen of *Yarmouth* will not Buy them, and no body else may.

6. Because by corrupting an Officer, Salt may be Imported from *Scotland*, *&c.* under pretence of being made or refined in some place of *England*, And so the King lose his Customes.

7. Because Ship-Masters lie under a great Temptation to embase, and consequently embezil and get corrupt Gain, the rather in regard the Laws that enjoyn the regulating of Measures, are not observed in several Corporations and Maritime Towns, but illegal Measures maintained, and irregular ways of measuring practised.

8. Though its believed we need not have much bad Salt in *England*, yet without such course it will always abound: Moreover the keeping of Salt in Stoves or Hot-Houses, is to prevent its losing weight and bulk, whereas by the weight of Salt a good estimate may be made of its worth.

Upon experience, a *Winchester* Bushel of *Portsea* Salt weighed 67 *l.* of *Worcestershire* Salt, as in page 7. is alleadged 56 *l.* And of *Newcastle* Salt, by the Lord *Breretons* experience 48 *l.* and in *Cheshire* there are several kinds doubtless much differing in weight, (the bulk being the same) of which I have no account, and if the weakest Brine there be throughly Boyled, it will (as some most skilful Saltworkers affirm) render a most pure excellent Salt.

Other Arguments for Discouraging the Expence of Bay and Foreign Salts, by imposing a high Duty thereon.

1. SUch Salts being granulated only by the Sun, abound with three ill Qualities, Dirt, Sand, Bittern, of which see page 55.

2. Bay Salt was formerly Imported in *French* Bottoms, in regard the *French King* laid an Impost upon all Salt made in *Brittany*, and Farmed it out to such as were restrained to Import it in their own Vessels, who paid but 3 *d.* a Wey advance here, whereas *English* Vessels paid 50 sous a Ton there, by which means the Employment of our Shipping was prevented, and much Bay Salt (albeit prohibited) is frequently Imported under the Notion of *Guernsey* Salt, where there is but little made; under Colour whereof much rich Goods and Liquors are smugled in, and Wool, Fullers-Earth, and Tobacco pipe Clay Exported, contrary to Law.

3. It is a great Impoverishment to the Nation to spend as we do, by a rational Computation to the value of 60 thousand pounds *per Annum* in Foreign Salt, which is either paid for in Money, or Returns to that value prevented; whereas we can be furnished with twice as much of our own as we can spend, in regard some of our Brine-springs are inexhaustible, and run to waste, and Salt making in many places is given over for 4 or 5 Months time each year, where it comes to pass that multitudes of poor want Employment, become a Burthen to the Parishes, or instead of being Consumptioners at home, are driven to Foreign Plantations to search for a Livelyhood abroad.

4. Bay-Salt is improper to cure either Herrings or Cod, in heap or in pile on Board, because much especially of the largest of it, though mingled with other small Salts, doth not dissolve soon enough to pinch and save within time; Hence the *Dutch* prohibited the use of it about Herrings. And we have reason to do the like.

1. Be-

1. Because it will be a means to increase Fishermen, Seamen, and Pilots: For if by reason of a good Salt, which pincheth, peirceth, and saves quick, Fish be well cured on Board, the industrious Labourers will reap near double the profit, and need not be compelled to sell their Fish to be cured, to them that have assumed a power to set a price, which hath been so general a Discouragement that not one third of the Number go now from *Yarmouth*, the *Cinque-Ports*, and *Members*, as were wont to do. Hence our Maritime Towns are much depopulated, and both them and the neighbouring Countries impoverished for want of the Consumption, Trade, and Returns by them occasioned.

2. Because Fish cured with a good refined Salt, is not only more acceptable to the Market at Home, but to all Markets abroad, and is sold at near double the price our Fish cured with *French* Salt is sold at.

3. Divers of the Fishmongers Company, met together about *Christmas* 1678, to draw up and Represent to the Parliament the vicious Effects thereof, on our own, and on *Izeland* or *Northsea* Cod (and Herrings,) to the end, the Royal Fishery Company then about to dissolve by reason of Losses by the *French*, *&c.* might be encouraged, and a dispensation for Importing Stock-Fish might be obtained, The which being prohibited by the *Irish* Act &c. It came to pass that his Majesties Fleet and other Shipping could not at all be Victualled with Fish, or at least not till the Royal Fishery of the Nation was so Encouraged as to proceed and catch plenty of good Fish in the *North* and *Irish* Seas. The Argument or Plea then insisted on was,

That the Fishery Adventurers of *Yarmouth*, obtained by an Act of Parliament, 14 *Regis*, Intituled *An Act for the Encouragemint of Trade*, high duties to be imposed on Fish salted or dried, caught or Imported in Foreign built Ships or Vessels, with promise they would supply the City of *London* and other places with good Fish, of the same kind, to wit, Cod, Colefish, Ling, Haddock, at moderate Rates, but have not done it; whence there was a want of those Commodities till such time as the Royal Fishery Company undertook the supply of the Markets in Winter time, at moderate Rates, when the *Yarmouth* Fishery ceaseth.

Hence

Hence the Fishmongers for home Vent, craved the Encouragement of that Company, or the taking off the said Clause in that Act, and another to the same purpose in the late *Irish* Act, otherwise the Markets in Winter-time, (the most seasonable for catching and spending Channel-Cod,) will be left without supply, and themselves Ruined, or exceedingly damnified in their Trades.

Alleadging withall, that such Clause as aforesaid caused the Fish of *Yarmouth* to grow exceeding dear, albeit old and ill cured. Of which they gave this Account; to wit, that at the end of *April* each year they set out their North-sea Vessels to *Iceland* to catch Cod, which they Salt with *French* and other ill Salts, whence it proves Dirty and many times bad, doth not sell in any Forreign Market except in *France*, or if it doth, with an ill Repute, as if *England* could furnish no better, and at a price cheaper by 20 *per Centum* than Fish cured with a proper Salt, and barrell'd up as the *Dutch* do: Hence it becomes over plentiful at home, and being mistaken for that which is well cured by the Royal Fishery Company, begets an ill Esteem here also, on a Commodity that deserves high Applause. Whereas if good Salt were used whether in Pile or Barrelling, they conceived the Fishery Trade of *Yarmouth* would quickly be much Enlarged, not only for Expence on shore, but for Victualling of Ships, for which *Iceland* Cod well cured is very cheap and proper.

To which Discourse we Annex,

A Narrative of the ill manner of making Red-Herrings at Yarmouth, *imparted by Mr.* Richard Alcorne, &c.

1. THey undertake not their great Fishing for Herrings till two Months after the oylie Summer Herrings arrive in the North, which have a rowle of Fat, and no Rows in them, which he beleives may be cured so as to dissolve for Sawce, in imitation of Anchovies; yea the very Pickle of them

Boyled up with ſawce hath given a good guſt both to Fiſh and Fleſh, reſembling the taſt of Anchovies.

2. The Herrings as ſoon as caught are thrown into the Holds of their Boats, and if not carried forthwith on ſhore freſh, are ſalted with Bay or *French* Salt. One ſcatters Salt with a ſhovel on the thick Heap, another turns them with another ſhovel, and ſo continue till ſalted enough for preſent Preſervation.

3. When the Boat hath a ſufficient quantity, the Maſter carries them on ſhore to his Hoſt, and there delivers them to him, according to a price the Town ſets.

4 Many of theſe Fiſh are bad, becauſe the Salt is of ſuch an irregular ſize, that the third part of it doth not diſſolve in proper time.

The beſt of them are barrell'd up with Salt and Pickle for Exportation, and yet theſe as being ſalted with improper Salt, can neither keep long for hot Seaſons or Climates, nor for very long Voyages, for the Bittern peirceth the skin, draws forth the Oyle and Moiſture, and in length of time brings the Subſtance to a Mortification or kind of Rottenneſs, yea in a ſhort time renders it dry and hard.

The worſer ſort or bad ones, (to prevent the loſs of them,) are deeſed over a Wood-fire, and are thereby dried and rendred Red, or Red-Herrings.

Some of theſe happening amongſt Salt of too large a ſize prove ſtinking, and when they come to the deeze, drop from their Heads, and are afterwards tied taile to taile, till very home dryed, and then are barrell'd up with the reſt and ſent to Market, which irregular covetous practiſe deſerves an Aſſay, having been a great diſparagement to the Trade, and moſt of them when they come to be Broyled and eaten, prove dirty coloured, dry, and by reaſon of the ill quaſities of the Salt.

Thoſe that are overdry and overſalted, will upon tryal of bending, either prove very ſtiff or crack.

Whereas 'tis conceived if good or well cured, vaſt quantities might be ſold at home and abroad, more than now are, and become a ſtaple Commodity of great uſe and repute.

The

The Reader may eaſily believe theſe Aſſertions, in regard a barrel of Red Herrings coſts more, and yields leſs, by ſix or ſeven ſhillings than a barrel of white pickled Herrings.

To Remedie which Inconveniences, it is aſſerted and propoſed.

1. THat the Herrings that Arrive in *Auguſt*, being more fat and oily than thoſe that come later, are moſt proper to make Red-Herrings.

2. That theſe being caught at Sea, be immediately ſalted with the beſt ſort of *Engliſh* refined Salt, and if caught far off barrell'd up, ſo as to keep for two or three weeks time or leſs, till the Veſſel can Arrive on the Coaſts, or in the *Thames*.

But if caught near, ſo as to be carried on Shore within ſix or ſeven days more or leſs, then they need not be barrell'd, but being firſt ſifted in Salt to be laid in a lay, and Salt ſifted thereon, and ſo for more lays one upon another, till they become a Heap or Pile according to cuſtom.

3. That they be ſuddenly put into the Deeſe, and well or ſufficiently Deeſed, and they will be effectually readred Red-Herrings, with all the properties of good ones. To wit, they will be well ſeaſoned, comparatively freſh, red, fat, oyliſh, ſoft and plyable, ſo as to bend about the Fingers, without cracking or breaking.

4. Our *Yarmouth* Men may rather thank than reprove Mr. *Alcorne* for this Digreſſion, he did it to prevent the loſs of their Fiſhery, which may be ſupplanted by one in *Ireland*, where the *Scotch* Boats every year carry away from *Dublin* about ſixty thouſand pounds ſterling for Salt and Herrings, as hath been made appear, long ſince to the *Lord Deputy* and *Council*, on which an Act was prepared, for the Eſtabliſhing a Corporation for the Herring-fiſhing at *Dublin*, where and generally on the Coaſt the Fiſh being much larger, fatter, and arriving ſooner than ours, are more proper for Herrings Red or Pickled; and by reaſon of their cheapneſs, may in time certainly ſubvert the Herring Fiſhery of *England*: We now proceed to argue againſt *French* Salt.

5. Bay Salt is improper to cure Fleſh withall, becauſe in time it renders the Meat dry, hard, dirty, rotten, and by reaſon of the Bittern in it, conſumes the goodneſs or nutrimental part of the Meat, as moiſture, gravy, &c.

And this comes to paſs not only from the ill quality, but alſo from the overlarge ſize of this Salt, ſo that about one third of it diſſolves not in proper time, but continues ſo long a diſſolving, until all with it, is almoſt as Salt as Salt it ſelf; Hence exceſſive quantities of it muſt be uſed, whence great remains of it are waſted and found at the bottom of the Cask, which is not fit to be uſed again, yet in the Pilchard Fiſhery is thrown by for ſecond and third uſes, but being once wet with the blood of the Fiſh is continually waſting, near as much as if in uſe. Whence one Buſhel of good Salt of a regular ſize, though one half dearer than *French*, will turn to a cheaper account.

6. The *Dutch* Mariners returning from long Voyages, look fat, healthful, and freſh Coloured, becauſe their Fleſh and Fiſh is ſaved with refined Salt. Whereas on the contrary our Mariners feeding on Proviſion cured with Bay Salt, are ſcorbutick and incombred with acrimonious Diſeaſes.

Objection.

The Maſters or Refiners may Alledge, that Foreign Salts may be cleanſed of three ill Qualities, Dirt, Sand, Bittern, that is, by making Salt upon Salt out of them, after the *Dutch* manner; and that for want of ſuch Salts to Refine, they and many Labouring poor People under them ſhall be undone, and that ſome parts of the Nation are too remote from Saltworks of our own, which cauſed their undertaking.

Anſwer.

1. Foreign Salt may be had from our own Plantations of *Antego* and *Jamaico*, as alſo at the Iſle of *May*, *Tortudos*, &c. for fetching, or very little charge.

2. The Diſcouragement only, but not the Excluſion of Foreign is intended. To which it may be objected, To what end ſhould we Trade in it then?

Anſwer.

Answer, The *Dutch* Traded for many Ships Ladings of it yearly, not to spend for their own use, but to furnish Northern Countries therewith, especially *Sweden*, where it seems by a late Gazette they had no Native Salt, but now of late have Discovered Brine-Springs. To promote the Exportation of it when here, all Duties levied on it ought to be Repaid.

3. *Spanish* and *Portugal* Salt beat to Powder, do not so much either discolour Butter and Cheese, nor consume the Gravy, Moisture, and goodness of Flesh and Fish as *French* Salt doth. Wherefore these Salts being better to Refine, and also procured in Barter, ought to have a less Duty imposed on them than *French* Salt, whereas on the contrary that pays but 1 *s.* a Wey Duty, and *Spanish* and *Portugal*, 1 *s.* 4 *d.*

The goodness of Salt made from Brine, raised by the Sun from Sea-Liquor, purged and embodyed by Fire, asserted.

Such Salts as are made at *Lemmington* at divers Works, and in *Portsea Island*, on the Works of Mr. *Richard Alcorne*, and Mr. *Pits*.

Portsmouth it self stands on a peice of Land that probably was formerly an Isthmus, now an Island, of about seven Miles Compass, being Banked on shallow Places on the North side, and is called *Portsea Island*, which is entred by Land on that side over a Bridge called Postbridge.

On the Eastward part of this Island there is Land recovered from the Sea by aid of a Bank, about 3 Miles from *Portsmouth*.

Mr. *Pits* hath a smaller, but the more Ancient Work thereon, Mr. *Alcorns*, is a Work on 80 Acres, part of 300 Recovered from the Sea about the year 1666: And though all these Salts (if there be good care and skill used in Boyling) may be alike or near alike in goodness, yet having had most Experience of Mr. *Alcorns* Salt, we shall give it no more than its due praise, and he deserves no less, for imparting the former Discourse about Banking the Ground and making

Salt

Salt thereon, fit for all Intents and Purposes, which is proved from the Qualities and Effects thereof.

First, from the Qualities thereof.

1. IT granulates or kernes to any fitting desirable size, small or great, and of it are made Clods or Sugar-Loaves, And on one part of the Ground, is made a reddish Salt that serves to salt gammons of Bacon and Neats-Tongs, and renders them Red.

2. It hath also the properties of good, Namely it is white, hard-kerned, weighty, a(*Wincheſter* Bushel of it weighed 67 *l.* and an half, Averdupoise,) dry, and so keeps in moist weather, and grows Rocky, of which there is an instance in the Warehouse of the Royal Fishery Company at the Red-House at *Deptford*, where for two years together hath been Lodged about 26 Wey of it; which, when occasion came to use, was found a hard Rock, and picked up with Pickaxes.

3. It is free from Dirt and Sand, and that drying, burning, corroding, mortifying quality, called Bittern

Secondly, from the Effects.

AS to Flesh, the ordinary method of salting Meat for long Voyages is hereby altered, rendered more speedy, and less chargeable, and the Meat much better and longer preserved. Of which methods hereafter, in Directions for using this Salt.

This Assertion is confirmed by manifold Experience.

1. Mr. *Pits* Asserts, he furnished Sir *Dennis Gauden* late Victualler of his Majesties Navy, divers years with this kind of Salt, which cured the Provisions without any blemish or Complaint.

2. Mr. *Alcorne* Asserts, he will prove before a Committee of Parliament when needful, that the Provisions for the Navy at *Portsmouth*, have been excellently well cured with this Salt.

3. He

3. He aſſerts that *Iriſh* Beef and Neats Tongues have been ſalted two years therewith, and then Eat better than they could have done, if they had been ſalted but two Months with any corroding or wateriſh Salt. Alſo that it hath cured Salmon for long keeping.

4. About three years ſince, two Hogsheads of Beef, and two of Pork, were ſalted at the Victuallers Office on *Tower-Hill* with this Salt, according to the new Method. And that the Brine in the Cask being often proved, was from time to time found very good, and conſequently the Meat the like, but of this I expect a better account hereafter.

5. How well it hath cured Bacon and Pork that was ſent up to Mr. *Binglos*, Merchant in *Abchurch-Lane*, hath been before mentioned in page 11.

Divers Bacon-Men of *Kingſton* and *Hants*, that uſed to ſalt Beef, Pork, and Bacon, with this Salt; about three years ſince atteſted the goodneſs of it, before a Committee of Parliament for the Fiſhery, whereof Sir *Henry Ford* was Chairman, and if it were needful its goodneſs might be atteſted by ſome Cook, and by divers Butter-women, Bakers, and a Deluge of others.

6. Beef hath been ſalted with it for an *Eaſt-India* Voyage, carried thither, and at 20 Months end brought very good back, whereof four Hogsheads was Sold to one Mr. *Robert Forth*, for a *Barbados* Voyage. Of this one Mr. *Parke* is ready to give Teſtimony when needful.

To Experience, Reaſons may be added, why Fleſh Salted with this Refined Salt, is cured with leſs Caſualty, will keep longer, and be more valuable and acceptable, in hot as well as in cold Climates, than that Cured with French *Salt or any other not Refined.*

1. IT is cured with leſs Caſualty, becauſe in the new method of Salting and Packing, hereafter deſcribed, the Brine makes the Salt packed with the Meat, ſearch all places neglected on haſty dry Salting. Whereas in the ordinary or old method, the moiſture of the Meat and Brine running away, there

there may happen the loss of Salt from many Concavities, before it hath had its desired Effect, although it lies till some parts of it be oversalted. And if one pound of tainted Meat happen in a Caskful, it will by the Brine be communicated to every part, and so the whole quantity to the sense of smelling be rendred corrupt.

2. It will keep longer, because this Refined Salt is Balsamick, and free from the Drying, Burning, Corroding, Mortifying quality, so often formerly mentioned and called Bittern, the spirit whereof will dissolve the Bodies of Animals, Vegetables, Mettals, and therefore unseparated (as it is in all Salts embodyed by the Sun) causeth Meat long salted therewith to seem rotten, and will so far embase the best tall fed Beef, that Grout or course Bread will be more healthful and strengthening Food than it.

3. That Burning Corroding Quality consumes the most nutritive part of the Meat, namely the Juice and Gravy, and succeeding in the room thereof, enflames and corrupts the Blood, whence ensue acrimonious humours, and Diseases in the Body.

4. Meat salted with this Refined Salt is more acceptable, because it hath its natural moisture, its pristine size, proper Tast, and genuine operation, and is not dammaged by much more Age than the longest of Voyages can require, if kept constantly in good Pickle, or dry Salt; Neither doth Meat well saved with this Salt, grow very much the salter for long keeping.

As to Fish. First Herrings.

1. THe Royal Fishery Company have caught some thousands of Barrels, and salted them at Sea with this Salt, the greatest part of which were sold in *Holland*, by Mr. *Panser* of *Rotterdam*, and the rest at home, and never any of them were yet complained of, as ill salted or cured: Yea being salted at Sea as soon as caught with that little Blood they have, do not Eat near so salt as those salted, and repackt with *French* Salt.

2. Mr. *Binglos* a Merchant in *Abchurch-Lane*, put some Herrings that were caught at *Michaelmas*, on Board a Ship in

in *May* following, which carried the Right Honourable the Earl of *Carlisle* first to *Barbados*, and afterwards to his Government of *Jamaica*, His Lordship tasted the Herrings near the *Barbadoes* and liked them so well, that he was pleased to give an account how well they proved, and to direct his Secretary to put him in mind to write to his Majesty to give encouragement to this kind of Salt; part of the Herrings were carried to *Jamaica*, where after 6 or seven Months they were spent by his Lordships Servants, and were as good as any whatsoever, and esteemed a Rarity.

An Objection was made at a Committee of Parliament, that no Salt whatsoever would preserve Herrings and Cod for above six Weeks time in a hot Climate; But this instance, and considerable quantities that the *Dutch* formerly Shipt off to *Brazile*, and thousands of Barrels of split-Herrings and Mackarel yearly shipt from *New-England* to the *Barbadoes*, and there sometimes kept two or three Months before spending, and *Berwick* Salmon that kept good to the *East-Indies*, are a sufficient Answer to the Objection as to both sorts, in regard Herrings require a better Salt than Cod.

3. The said Mr. *Binglos* kept Herrings two years, ending at *Michelmas* 1680, that were caught by the Royal Fishery Company, which so long after proved most excellent good, tender, and not over Salt. At length his Maid thinking that her Master did not regard them, gave them away to poor People, having no precept to the contrary.

As to Barreld Cod.

THat which the Royal Fishery Company caught at Sea, they salted with this *Portsea* Salt, and sold most of it to the Fishmongers Company, who will attest when it is needful, that it was as well salted, white and good, as could be expected, and desired the Fishery Company to use no other kind of Salt, which they would not be drawn to, albeit they might have it much cheaper.

Arguments for the Encouragement of English *Salt, and hindring the Expence of Foreign.*

1. IT will Employ multitudes of poor Labouring People, in Recovering waste Lands from the Sea, in Banking

or Encloſing the ſame, in making and boyling of Brine, whereby they become Conſumptioners of our Native Commodities, and be enabled to pay Taxes towards a neceſſary War if ſuch ſhould happen.

Whereas, as the Caſe ſtands, thouſands have quite given over, or Work but half the year, for want of Vend, and by ſuch means are forced away to the Plantations, live on the Alms of the Pariſh, or are compelled to Beggary or worſe.

2. It will Employ many Smiths, and conſume much Iron for Pans and Grates.

3. It will Employ many Carpenters, Smiths, Brick-makers, Brick-layers, to Build and repair Houſes and Furnaces, and to make Carts, Barrows, and Cribs to remove away and ſtore up Salt in.

4. It will Employ much Shipping and Mariners to fetch Coals, and to tranſport Salt, and conſequently increaſe our ſtrength in Mariners and Shipping.

5. It will Enrich the Nation, by preventing the needleſs carrying out of Money, to pay for *French* Bay Salt, and other Salts, which formerly in time of War in the years from 1627, to 1630; was ſold here from Eight to Ten ſhillings a Buſhel, whereas our own being a Native Commodity will be always at a moderate price. And albeit it ſhould be dearer than Foreign, yet as aforeſaid a much leſs quantity will ſerve to better purpoſe.

And both then and ſince many Ships went yearly in their Ballaſt to fetch Bay Salt, but of late ſince we obtained a good and cheap Manufacture of our own, it is faln to a very low price, to wit, 10*d.* or 12*d.* a Buſhel, on purpoſe to undermine us; whereas not many years ſince in times of Peace, it was uſually ſo'd at 4*s.* a Buſhel.

6. *Engliſh* refined Salt is better and much cheaper than any the *Dutch* can furniſh themſelves withall. And when its worth is known, its poſſible it may become a Staple Commodity, to furniſh not only the *Northern* parts withall, but alſo *Ireland*, *&c.*

OF

ICELAND.

THis Treatise being cheifly intended for the promotion of the Manufacture of Salt, (and Fishery,) I am next to discourse of the uses thereof, in curing and saving both Fish and Flesh; The year in the Law account, begins at *Lady-Day*, and about that time our *Yarmouth* and *North-Sea* Fisher-Boats set out to the *North* of *Scotland*, and to *Iceland* for Cod, of which *Island* meeting with no satisfactory Account in Print, and having made many Inquiries, and held long Discourses with divers Masters of the Doggers of the Royal Fishery Company, to wit, Captain *Arnold Padget*, Mr. *Cloudesly Cooke*, Mr. *Joseph Bond*, Mr. *Robert Payne*, Mr. *Joseph Fisher*, Mr. *Timothy Fowler*, who have Fished many years there and sailed round it: They give the following account of the Commodities of the *Island*, and of the manner of the Inhabitants living there.

The Place is a Rough Hilly and Snowy Land or *Isle*, called *Iceland*, either from the great quantities or Mountains of Ice that in those Seas are floating *Southwards*, till they prove hollow or spungy underneath, and by their Collisions break asunder, and become smaller and at last overset and dissolve, or from the perpetual Ice and coldness of the Air, which is there sharp for eight Months together.

One *Robert Payne*, Master of a Barke called the *Jewel* of *Yarmouth*, was in 1658 about nine days enclosed amongst the floating *Islands* of Ice, and escaped with great hazard.

The *Island* it self is large, to wit, about the bigness of *Ireland* Mountainous, having a Ridge running through it, *Fournier* saith it reacheth in Latitude from 64° to 68°, but the Masters abovementioned say this is a gross mistake, that the most Southwardly part of it is *Ingulf-foot* in 64° 25′ of North-Latitude, and the most Northwardly part is *Rag-Point* in Latitude 66° 5′, Whereas the *Atlas* also makes part of the

Island above a degree to the Norrhward of the Artick Circle, which is a groſs miſtake, refuted not only by Obſervation, but alſo by the *Suns* continuance two Months above the *Horizon* in the middle of *December*, in the *Northward*-moſt part of the *Island*.

* houres in a day

This *Island* lies *Northweſtwardly* from the *North* of *Scotland*, to wit, from the Start or head Land of *Orkny*, to *S. W.* head of *Fero* is 55 Leagues diſtance, and from thence to *Ingulf-foot* on the *Southſide* of the *Island* it is 85 Leagues more.

The *Island* hath 4 remarkable Mountains in it.

1. To wit, *Ingulf-hill* on the *South-Eaſtſide*, the Top whereof may be ſeen afar of at Sea againſt bad Weather.

2. *Hackaford*, on the *N. W.* ſide two Leagues from the Sea of a great height.

3. *Snowhill* on the *N. N. W.* ſide, the plain Land there being called *Rook hill.*

4. The famous burning Mount *Hecla*, about the middle of the *Southſide* of the *Island* 60 Miles or more from the Sea.

Some others of them are ſaid to Burn and be always covered with Snow, but this being the moſt Eminent, we ſhall be the more large in diſcourſe about it.

Out of a little Book intituled *Geologia Norwegica*, tranſlated out of the *Daniſh*-Tongue by *Daniel Collins*, and Printed in 1663, the Author of it being a learned Miniſter, we have the following account.

Mount Hecla, by the Inhabitants called *Hecklefield*, Burns continually with a blew Brimſtonelike, and moſt dreadful Flame, caſting up and beſtrowing the Fields round about, with ſuch great quantities of Brimſtone, that divers Ships may yearly be Laden off with it; and it oft times ſtrews the Land with ſo many Aſhes, and other burnt Stuff, that the Country for the ſpace of ten Miles round about, can yield no profitable Increaſe; and when it Burns with greateſt Vehemence, (for it Burns ſometimes more feircely than others) it makes a terrible rumbling like the noiſe of loud Thunder, and a fearful cracking and tearing, that may be heard a long way off by the Inhabitants.

Martineire in his *Northern* Voyage tells us page 134, that himſelf and another, having two Guides, and being deſirous

to

to see and ascend *Mount Hecla*, travelled for two days together over Mountains craggy and unfrequented ways, and when they were within a League and a half of it, found the Ground all covered with Ashes and Pumicestones, over which they were forced to March towards the bottom of the Moun ain, the Sky being Serene, and no flames to be seen, they took a resolution to go up it, but the Guides informed that if they passed any further, they would run great hazard of sinking into the holes the Fire had made, from whence there would be no likelyhood of recovery.

However he and his Companion Marched over the Ashes and Pumices, (mid Leg deep) towards the Top, where they saw a great number of Birds flying up and down as black as Pitch, and they were *Ravens* and *Vultures* which build there.

Being got about half a League up the Hill, they found it begin to tremble under their Feet, and heard a strange Crashing and Rumbling within, which argued a Hollowness, and gave them no little fear of sinking into it: At the same time round about them they perceived great Chinks, out of which Flames and Sparks came forth, which were noysome and stunk like burn'd Brimstone, which frightned them so much, that they got back as fast as they could, for fear of being Swallowed.

Being got about thirty paces back, a Cloud of Ashes broke suddainly out of the Mountain, (so big and thick it obscured the Sun,) and fell upon them in such manner, that they could not see one another: but that which frighted them the most, was to see every moment new gusts of Fire and Ashes break out fresh and fall upon them like Hail, with a continued noise and rumbling under them, that their fear added Wings to their Feet.

They saw a Pumicestone about the bigness of a Hogshead, which had been thrown from that Mountain a little before, and whilst they were admiring how it should be possible, one of the Guides affirmed, he had seen much greater, and among the rest, one which ten Men were not able to move; and affirmed moreover, that besides the Flames, Cinders and Ashes they had seen, that the Mountain throws out sometimes scalding hot Water, sometimes flames, sometimes Fire, and sometimes nothing but Stone.

Itti-

Ittigius in Lucubrationibus de Montium incendiis, relates the like Story of *Dithmar Blefkins*, who ſpent 4 days in Viewing and aſcending this Monntain with no better ſucceſs; the ſtory whereof is in Engliſh in *Purchas's Pilgrims*.

We read in *Geologia Norwegica*, That in *Anno* 1626, this Mountain of *Hecklefield* broke out with ſuch a Flame, that it caſt terrible and unuſual peeces of Fire out, whichflew round about a great way, and the Aſhes ſome hundreds of Miles; and ſaith the Author, was ſeen in the *Northward* moſt parts of *Norway* which ſeems impoſſible, yet it is related for certain that it was ſo.

They have hot Baths on the *Weſt* ſide of the Land, particularly one 17 Leagues from *Snow-Hill*, in a Harbour called *Lowſy-Bay*, which iſſues from a Rock about which they uſe to make a Mound or Pond of Rock, Stones, Flags, and Earth, till it be deep enough for a mans body

In the *Philoſophical Tranſaction*, N° 103, Dr. *Paul Biornonius* reſiding in *Iceland* informs us, that they abound with hot Springs, of which ſome are ſo hot that in a quarter of an hour they will ſufficiently Boyle great peeces of Beef, which is thus ordered. They hang Kettles with cold Water over them, in which they put the Meat to be Boyled, for fear of either Burning or throwing up the Meat, by the fervent and vehement ebullition of the hot Waters: Theſe Waters do harden and petrify about the brims of the *Therma*.

Arngreim Jonas, one of the Writers of the ſmall *Duodecimo* Books called *Republicks*, whereof there is one for each Kingdom or Government, gives a much larger Deſcription of it than is to be found in any *Atlas*, where the Reader may meet with an Account of the time, when it firſt came to be Inhabited by the *Norwegians*, which he aſſerts to be in *Anno* 874, and was afterwards repleniſhed by the *Danes*, under whoſe Governmet and Religion it now ſubſiſts.

The *Iſland* is well Peopled, but the Inhabitants live only in the Valleys and towards the Sea-ſhore.

Their

Their Dwellings deserve not the name of Houses but Caves, contrived to avoid the vehemence of Winter, and are commonly made in the Vallies at the feet of Mountains, over little Springs or Currents of Water wherewith they abound; the Walls or Sides are made of Stone, and Rocks with Flags between them.

The like may be said of their Churches, The Ridges of both appear but a little above Ground, are made with Rafters and Boards, and are covered over with green Turf; Neighbours seldom have their Houses Contiguous, neither are there many of them as one may say in a Village together, yet the Habitations of some of the Gentry are Wainscotted within.

Of the Inhabitants.

THey are a lusty, comely, affable People, accounted sincere in their Dealings, addicted to Learning, having three Universities (such as they are,) and divers of them have Travailed far; They are long Liv'd, Healthful, their Drink and Food being but mean, as we shall hereafter intimate.

The Diseases they are most subject to are the Cholick and Leprosy, they have no Physicians (as not allowable by Law) saith *Fournier* in his little *Geography*.

Some few Chyrurgeons they have for the Curing of Wounds.

Much of their Dyet especially in Summer-time, begets upon them such a slime, Leprosy or Scurf, as peeles off after change of Dyet in Winter.

Of the Weather.

THe Aire is healthy all the year long; the changes of Weather are uncertain, nor do they fall out according to the four Seasons of the year, sometimes it Snows as well as Hails in the midst of Summer, and the Winds blow, now and then in most furiously that Season.

Though

Though the Weather be sharp for eight Months together, yet most part of the Winter the poor Fishermen that cannot purchase Boats of their own, (on which account they are in great Bondage to their Employers) Fish in the Harbours, yea and some of our *Yarmouth* and *North-Sea*-Boats Fish there in the Winter-time in *December* and *January*, *&c.* And make two Voyages in a year, Complaint thereof being made in Parliament (as Destructive to the young Fry,) begot the following Clause in an Act 16° *Regis*, *Car.* 2. *Chap.* 16. Intituled an Act for *Regulating the Herring and other Fisheries*, and for *Repeal of the Act concerning Madder*, *viz.* And for the "better regulating of the *Island* and *Westmony* Fisheries, and "preservation of the Spawn of Fish there, it is Enacted that "from and after the 25*th.* of *October* 1663, No Ship or Vessel "shall proceed upon a Fishing Voyage for *Iceland*, or *Westmo-*"*ny*, out of any Port, Haven, or Creek in *England* or *Wales*, "or out of the Port of *Berwick* upon *Tweed*, until the 10*th.* of "*March*, upon the forfeiture of every such Ship or Vessel, with "all her Furniture, Tackle, and Apparel, and of all Fish caught "in such Ship or Vessel.

Of their Commodities.

1. THey abound with great plenty of Sheep, Cows, Bullocks, Horses, with admirable Pasture Ground in the Valleys.

2. Great plenty of most sorts of Sea-Fish, all the year, round their Coasts.

3. They abound with many Lakes on high Mountains, well stored with fresh-Water-Fish, and with Rivers well stored with Salmon, and Salmon-Trouts, of which they sometimes take 20 or 30 at a draught.

4. In Summer-time they have great plenty of Wild-Fowle, as Mallard, Ducks, Teal, Partridge, Wild-Geese, Plovers.

5. In Winter-time, they have Ravens, Eagles, Wild-Ducks, Swans.

Of

Of the Commodities they want.

1. THey have no Coals, Wood, or Trees, for Fuel or Building.

Some very few Sallows and Birch growe there, but not above half the height of a Man.

2. They have no Corn or Grain whatsoever, consequently no Wheat, Barly, Oates, Pease or Beanes, consequently no Beer; some few Berries they have called Ashberries or Anberries.

3. By consequence (as 'tis likewise most certain upon Evidence,) they have no Swine, Hogs, nor Poultry, consequently no Hen-Eggs, albeit possibly some few Hens may be kept upon Corn Imported by the Gentry.

4. No Hemp or Flax, consequently no Linnen.

5. No Salt, Glass, or Metal, consequently no Lead, Tin, Iron, or Copper.

6. No Fruit, good Roots or Flowers, except Dasies and Cowslips.

7. No Townes, Markets, Trades, or Shopkeepers.

Now these being their Defects, we shall Expatiate in shewing how they are supplied.

1. THe want of Coals and Fewel is supplied by Turf, which they have in abundance, Cow Dung, *&c.*

The want of Timber is supplied by great quantities that drive a Shore in *Blackbay*, and on *Rag* and *Langlies Points*, on the Northward most part of the *Island*, conceived to come from an *Island* called the *Groyne*, and what more they want is Imported.

2. Their Drink is Milk mingled with Water, In Winter time they are forced to drive their Cattle into their Caves, and there fodder them with Hay; and many People barrel up Milk for a Winter supply, when the Cows can yield but

little, for before they are driven out into Pastures they are almost famished, and reduced to exceeding Leanness.

They feed on the Ground from *March* to *Midsummer*, or longer before they are fit to Sell to such Ships as Arrive. The Inhabitants kill them not till about a Fortnight after *Michaelmas*, and then cutting the Flesh into Collops, the Frost will save it, and these they also Smoak-dry in their Caves or Stoves for Winter-Food, which is good Broyled upon Coals.

When they Broile them they Butter them, and indeed *Iceland* affords incredible plenty of Butter, as is mentioned by *Olaus Magnus*, *Fournier*, *&c.* which they crowd into large Fats and long Chests without Salting it, and it will have many Colours like a Rainbow, our Seamen think it not so good as Kitchinstuff.

Some few Cheese Curds they make, but I do not hear of any Cheese.

Most of their Sheep they fodder in Winter time, in other Caves adjoyning to those they dwell in, and some of their Sheep and Horse make a shift to live upon the Grass under the Snow, and the *Coralline Moss* called *Muscus-Marinus*.

If a Sheepe, Cow, or Bullock, die a natural Death, it is accounted Venison, and I am informed, that sometimes they take out the Guts of a Cow or Bullock, and leave him standing in his Skin on his Legs, or propped up in the Air or Frost all the Winter to be Eat the next Summer, and this is accounted a Rarity, because it is an Adventure, in regard of Bears that come over upon the Ice from *Groenland*.

Of their Fishing.

THeir Bread is Cod caught in Winter-time, and dryed in the Frost, commonly called Stockfish.

In the Summer-time they catch much of it, wherewith they make most excellent Haberdine, after the manner of Poor Jack at *Newfoundland*, and out of these Commodities Flesh, Oyle, Wadmall, and Brimstone, the King of *Denmark* raiseth a considerable yearly Tribute, keeps Officers on Shore to Col-

lect

lect it, and yearly ſends 7 or 8 Saile of Ships from 60 to 100 Tons, to *Wacklingford*, *Weſtmony*, *Ireford*, and other Havens to fetch the ſame, and to keep the Inhabitants from trading with the Subjects of any other Prince, which they cannot do, but in ſuch Harbours where theſe Ships are not, and there Wheat, Barly, Linnen, Salt, Iron, Tobacco, *&c.* are good Commodities to put off in barter for Wadmoll, Sheep, Beef, *&c.*

Sometimes notwithſtanding where theſe *Daniſh* Ships are, ſome of our Shipping may put into ſafe Harbours to avoid Stormes, and by leave of the Commanders, may barter ſome Commodities with the *Iſlanders* for Provſions.

Our Fiſhery there is ſaid to be reſtrained by the King of *Denmarks* Grant or Patent, to be no nearer the ſhore than within ſight of Land, yet multitudes of Fiſhery Veſſels, both of Strangers and Engliſh Fiſh there.

The *Dutch* notwithſtanding have the Priviledge to Fiſh in ſome of their Harbours, for Grampuſſes, and Dubartas, which is a baſtard kind of Whale.

Their Bread is alſo another ſort of Fiſh, called Hokettle, or the Nurſe-Fiſh, which hath a ſharp Ridge on his Back that cuts aſunder Fiſhery-tackle, which often times doth Inconvenience our Fiſhermen, ſome of theſe Fiſh are very large, and may weigh three or four Tons.

A Fiſh may yield two or three barrels of Livers, of which they make Oyle to burn in their Caves underground, the other parts they cut into pieces, and Bury them four or five Weeks under Ground, then waſh them, and dry them in their Stoves, which is afterwards ſold to the Neighbourhood as a valuable Commodity at about 6*d.* a Stone, and this ſerves inſtead of Bread, and if it be broyled on the Coals, it ſerves for Meat.

Of the Skins of this Fiſh they make their Shooes.

Our Mariners often catch this kind of Fiſh, and having obtained the Livers, drag the Body on Shore, where it will procure two good Sheep worth Nine ſhillings in barter, very large like Calves, able to bear a Man on ſtride, and as fat as Porks, the want whereof is ſupplied by other Fleſh.

A Sheep that naturally Dies, or is frozen to Death, is esteemed a great Rarity. Linnen, the better sort have in barter; The general Employment of the People is either Fishery or the making of Wadmoll, which is a course sort of woollen Cloth, made of their Sheepes Wool or Hair; Of which Cloath, they make Gowns, Coats, Capps, Mittins, and other wearing Clothes, sold by Slopsellers to Seamen and Fishermen.

But Breeches, Boots, and Stockins, they make of the skins of the Sheep, the hair being shaved away.

Also their Garmens next the skin and their Bedding is made of Wadmoll, which in the wearing, in their Caves, proves very hot, and breeds abundance of Lice and Vermin.

What other Commodities they want, as Salt, Iron, Linnen, *&c.* they are commonly supplied withall by the *Danes*, wherewith their Factors and the better sort, or Gentry, live splendidly.

The Dyet we have been discoursing of, though it seems unpleasing to our Constitutions, yet 'tis better than that of the *Northern Samojeds*, whom *Martinier* tells us Live in Summer-time upon Bears, Wolfs, Foxes, Crows, Eagles, and other wild Creatures, which they Hunt first, and then Eat in their Cabanes broiled upon the Coals, and subsist in the Winter upon nothing else but Fish dried in the Sun in Summer-time, unless by accident they kill some of those Bears who (having nothing left by the Snow in the Fields,) come home to their Cabanes to devour them.

Horses they have to carry Fish, Flesh, Turf, *&c.* up and down, on these the Women use to ride cross Legg'd to Church, after the custom of the poor Country Women of *France*.

Hawks abound in great plenty.

Also Eagles ready to prey upon Children, whose Parents to prevent the danger, cause them to wear Bells or Collars of Bells about their Necks.

Also little Shock-Dogs there abound, which are said to be the Whelps of ordinary small Bitches, lined by Foxes that come over on the Ice.

Of their Militia and Government.

THey have no other *Militia* on the *Island*, but only one Fort, on the cheif of the *Westmony-Islands*, on the *West South-West side* of the *Island*, 10 Leagues from the Merchants *Foreland*, with 12 Iron Guns in it, and there their Courts are held, and their Bishop keeps his Residence.

As to what follows about their Government and Lawes we take from *Dithmar Belskins* and *Arngreim Jonas*, which are the Authors as yet of most credit, and are cited by *Purchas* in his *Pilgrimage*.

The Governour yearly on the 29th. of *June* according to custom, meets with the Court of Justice consisting of 12 Men appointed for the Execution of Justice called *Lechmaders*, who being assembled, each of them hath a Book in his hand containing the Laws of that *Island* written in the Vulgar Tongue, Accusation and Answer being made, they go apart to confer of the Sentence, and pronounce it.

Those that are to die for Murder or Theft are Beheaded. Their Grounds being scarce otherwise divided than by a low Ridge or Wall of Stones, Stealing of Cattle becomes a frequent Crime; The Punishment for the meaner sort of Crimes, is to mark the Criminals in the forehead.

The Country is divided into Districts or Divisions called *Reppagogies*, where 5 Men are chosen and empowred to act joyntly like a Bench to put Laws in Execution.

Divers Laws. they have to prevent Beggary, which may be divided into three heads.

1. To prevent the reducing of any to extream and suddain Poverty, through their own faults, *humanitus loquendo.*

2. For raising Collections to relieve Losses sustained by Fire.

3. About Almes.

Lawes

Laws of the first kind are.

1. THat one born of beggarly Parents and seeking his Maintenance from door to door, (unless Diseased) should not be capable of holding an Inheritance, till three years after he hath deserted the practice.

2. That such as have brought Poverty on themselves thorough their own faults, should be lawfully gelded, albeit with danger of their Lives, least living from doore to doore they might beget Children like their Parents, that might prove a Burthen to the Commonalty.

3. That they should have no Releif, according to that of the Apostle, 2 *Thessalonians*, c. 3 v. 10. *He that Laboureth not, let him not Eat*, neither should they be entertained in their Houses.

Laws of the second kind.

1. NOne to enter or settle in a *Reppagogie*, without leave and proof that he can sustain himself and Family without begging.

2. Losses sustained by Fire to be valued, and the *Reppagogie*, by a joynt Collection to make good half the value.

3. And if a Man loseth a quarter of his Cattle by the Murrain or Rot, half the value so lost to be raised as before, but this not to be performed above the fourth time.

Lawes about Almes.

1. SUch as are poor through Sickness, Age, or other Casualties not in their own power to prevent, are to have Alms which are either private or publick.

The private Alms related to the maintaining of the indigent by their kindred and Relations, if of Ability.

2. If

2. If that failed, they were to be maintained in common by the *Reppagogie*.

Pursuant whereto our Masters of Fishery Vessels affirm they have no Beggars in *Iceland*, that they have often seen Aged People past Labour sent on Horse back from House, to House, or rather from Cave to Cave, to be maintained there three Months more or less as the *Quorum* of *Reppagogies* appoint.

Of the Iceland and North-Sea Fishery.

OF the Cod there caught by the Inhabitants in Harbours or near the Shore, they make either Stockfish or Haberdine as is mentioned before in page 82.

Our selves and others that have only License or Priviledge to Fish off at Sea, salt it up in Heap, Mud, or Pile, as they call it, and this sort is commonly used for the Victualling of Merchant Men, and in the Reign of King *Charles* the First, was also used 3 days in the Week for Victualling the *Navy Royal*, being a sort smaller and cheaper than those caught about *Sheteland* or the *North* of *Scotland*.

The price then allowed the Victualler for a siz'd Cod, to wit one of 24 Inches long, which served eight Men a Day for whole Allowance, being seven pence, (in a Proportion of Harbour Victuals) and eight pence three farthings in the Channel, or Victuals to be spent to the *Northward* of the *Canaries*, or *North Latitude* of 27°, and Nine pence half penny in Victuals to be spent to the *Southward* of that *Latitude*, and this was a dear rate in Comparison of what they may be had at now.

The manner of Catching is thus,

A Fisherman hath a Line of 90 fathom length or more, with a Lead at the end of it called a deep Sea-Lead, of about 6 or 7 pound weight to sink it, above which is a cross-Stick called a chop-Stick, with two Lines andhooks at them with baites.

The

The Cod are a ravenous sort of Fish, pursuing Herrings or any small Fish for their Prey, are baited at certain seasons on deep Banks; at other seasons retire with Herrings as 'tis b leived to the greatest profundity of the Ocean near them.

They will bite at any Bait either Flesh or Fish, and the rest seeing one hath sped will follow: particularly this Summer one Mr. *Robert Payne*, Master of one of the Companys Doggers, informes, that (finding no Swimmers) he baited and caught one Cod in 90 fathom Water, and with him making more Baites, he at last inticed the Shole by degrees from 90 to 40, 20 and 10 fathom Water, where the Fish were plainly seen, and were so greedy that they took 1600 in a day, and might have done more, if they could have dressed and cured them, the manner whereof here and elsewhere is;

The Cod being haled on Board, they are laid upon the Decks in the Vessel, (or may be on boards or Tables;) One Man chops or wrings off the Head throwing it over-Board, and enters a Knife at the Navel, and cuts it up to the Throat and downwards, taking out the Guts, Garbidge, and Rows, to throw away; as also the Livers to reserve in barrels to make Oyle of.

Another, the Splitter, takess out the back-bone, and lays the Fish open to the Tail.

Then they salt them, and lay them Nape and Tail in a Bed on the Deck, as fast as they can dispatch.

The manner of salting is, a Man hath a small salting Platter that may hold about a quart, which he disperseth cheifly on the middle or thickest part of the Fish, from whence it runs off on the Tail and thinnest part.

And when one lay is done, they pile them up in their Holds, and proceed to another, making in the middle of the Hold, the course of Fish higher by two foot than on the sides, that the Pickle descending may fall on the sides.

Of Oyle made of Cods Livers.

THe Livers being barrell'd up, three barrels of their own nature without any Artifice, yield one barrel of foul Oyle, the which is thus got, let the barrels stand 48 hours

on

on their Heads and the Oyle will ſwim at top, from whence it may be keeched with a pot, ſo long as the Oyle may be taken off without Blood, which they put into an empty barrel, let it ſtand ſix hours and then ſcum it off, and there will be left about half or more in Blood and Guts.

The Remainders or Reſidue are called blubber-Livers, when brought home, or to a convenience for Boyling are Boyled up, and 7 or 8 barrels of Livers may yield one barrel of Oyle.

Here we may intimate, that the Fiſh it ſelf ſeparated from the Bones and cut into peices is called Blubber, and all great Fiſh or Sea Monſters afford Blubber for making of Oyle.

Eight barrels are reckoned to a Ton, formerly ſold for 30 *l.* but now not at above half the Value; this Oyle is uſed for Lamps, as alſo by Curriers, and Ship Carpenters, *&c.* And for this Information I am beholding to Mr. *Joſeph Fiſher*, a Maſter of one of the Doggers belonging to the Royal Fiſhery Company.

Green Fiſh or Cod unbarrelled.

THeſe are alſo caught in *Northſea* Veſſels, which ſet out about *April* or *May*, and Fiſh about the *North* of *Scotland*, or more *Northwardly*, till the end of *Auguſt*.

1. When they are caught, they ſplit, and uſed to ſalt them with Bay Salt, and lay them in Heaps or Piles one above another, with Lanes of Salt between each, and ſo fill up till they have a Lading, if they can.

2. They bring them to a home Market, and ſell them to the Fiſhmongers, who Salt them with freſh Salt, that hath not been formerly uſed, to keep them cool and from Wind and Air, as is pretended probably in excuſe of the uſe of bad Salt.

As to their Quality, Many of them Stink, for 'tis a certain Maxim, that if Fiſh or Fleſh be not well cured and ſalted at firſt, they cannot be recovered, and ſuch as do not Stink, are not very acceptable at home or abroad, by reaſon of their Dirt and yellowneſs which the Bittern contributes to, as alſo mortifies and corrodes their ſubſtance, and that more ſpeedily in a hot than a cold Climate.

And Salt-Fish thus ordered, 'tis granted will not keep above six Weeks in a hot Climate; Yea many Vessels or Ladings of it have frequently and lately miscarried at Home, as may be easily proved by the attestation of the Fishmongers.

Much both of this and *Iceland* Cod, that is brought home in *April* and *August*, hath the Salt washed out, and being dried in the *Sun* and the Wind, is called Haberdine, after the manner of making Poor-Jack at *Newfoundland*, of which more hereafter.

Green-Fish, (*alias* Staple Fish as they call it,) cured with a good Salt proves excellent, and the Fishmongers alledge, it exceeds barreld Cod in goodness and cheapness.

But as to this Assertion, I cannot tell how to agree, unless restrained to the Summer-time, at which time indeed if Cod be but once salted and stapled, the Pickle and moisture run away; whereas if but once salted and barrel'd up, its possible the heat may cause the moisture to impair the Fish, but in Winter-time, Cod slightly salted, and after a few days repacked with fresh Salt, hath proved most desirable, white and firm, the *Dutch* both in Summer and Winter barrel up all they salt.

This Summer, the Royal Fishery Company brought in 80*C.* large Fish in one Vessel, which were sold at 20*l.* the Thousand, that is not above a Groat a piece, the which were ordered to be cured with *Spanish* Salt; the Company being induced to use it for these Reasons.

1. It was said to be cheaper than *Portsea* Salt.
2. A less quantity of it, would cure more Fish than *Portsea* would do.
3. There was little *Portsea* Salt then to be had.
4. It would make the Fish too good for Ship Expence.

To which I can now Reply,

1. That *Spanish* is dearer than *Portsea* Salt.
2. That *Portsea* Salt hath not been tried on Staple or Green-Fish, but in Herrings we find a less quantity of *Portsea* Salt to go further, with better effect than any other Salt, insomuch that the Companies Herrings have yielded two shillings a barrel more for being cured with this Salt, than other Herrings cured with other Salt, as Mr. *Watson* Husband to the Company can well prove.
3. That now this and *Lemmington* Salt will become common, and at a moderate rate.

A Narrative how Salmon is Cured at Berwick, *imparted by Mr.* Benjamin Watson, *Merchant.*

1. THey are commonly caught from *Lady-day*, to *Michaelmas*, either in the River of *Tweed*, or within three Miles or leſs off at Sea againſt *Berwick*.

2. Thoſe caught in the upper part of the River, are forthwith brought on Horſeback, and thoſe at the lower part thereof in Boats, to *Berwick*, freſh.

3. Then they are laid in a pav'd Yard, where for curing there are ready, 2 Splitters, and 4 Waſhers.

4. The Splitters immediately ſplit them, beginning at the Tail, and ſo continue to the Head, cloſe by the back Fin, leaving the Chine of Salmon on the under ſide; taking the Guts clear out, and the Gils out of the Head, without defacing the leaſt Fin: And alſo take out a ſmall Bone from the under ſide, whereby they get to the Blood to waſh it away.

5. Afterwards the Fiſh is put into a great Tub, and waſhed outſide and inſide, and ſcraped with a Muſcle-ſhell, or a thin Iron like it; and from thence put into another Tub of clean Water, where they are waſhed and ſcraped again, and from thence taken out, and laid upon Wooden Forms, there to lie and dreyn 4 hours.

6. Thence they are carried into the Cellars, where they are open'd, or laid into a great Fat or Pipe, with the Skinſide downward, and covered all over with *French* Salt, and the like upon another lay, and ſo up to the Top, and are there to remain ſix Weeks: In which time 'tis found by experience, they will be ſufficiently ſalted.

7. Then a dried Calve skin is to be laid on at the top of the Cask, with Stones upon it to keep them down; upon the removal whereof, after 40 days or thereabouts, there will appear a Scum at the top about two inches deep, to be ſcum'd off or taken away.

8. Then the Fish is to be taken out and washed in the Pickle, which being done, they are to be carefully laid into barrels, and betwixt every lay, so much Salt sprinkled of the remaining melted Salt in the Fats, as will keep them from sticking together. And after the barrel is one quarter full, to be stamped or leaped upon by a Youth of about 15 years old or thereabouts, being covered with a Calves-skin, the like at half full, and also when quite full.

9. Then a little Salt is to be laid at the top, and so to be headed up; and then the Cask is to be hooped by the Cooper, and blown till it be tite.

10. Then a bunghole to be made in the middle of the Barrel, about which is to be put a Ruff or Roll of Clay, to serve as a Tonnel, whereby frequently to fill the Barrel with the Pickle that is left in the Fat, which will cause the Oyle to swim; which ought to be frequently scum'd off, and serves for greasing of Wool. And thus after 10 or 12 days to be bounged up as sufficiently cured, and fit for Exportation.

Observations on the former Method.

5. ARticle. A Brush is fitter for the outside, and a Spunge for the inside.

6. Article. They may be salted but once, as Cod is salted, or they may be Piled as Pilchards, and the Oyle that way may be saved.

10. Article. 'Tis convenient to supply them with a Pickle, and we reckon the Fish is best cured in its Oyle; If not, it will rise and may be scum'd off though but once salted.

Salmon failing, or much decreasing this year at *Berwick*; 'tis not amiss to intimate where there is Plenty, to wit, the River *Dovy*, or *Aberdowy*, in *Merioneth-shire*, and several other Rivers saith Capt. *Lloyd*, (an eminent *Welch* Gent. in a Paper imparted to *Parliament* Men, and the Fishmongers,) afford vast quantities of Salmons, himself having taken (big and little) in three hours time above six Score, which he averrs to encourage the undertaking of a Salmon Fishery there, *&c.*

OF

OF THE

NEWFOUND-LAND FISHERY.

Of Poor-Jack.

THat ſort of Cod that is caught near the Shore, and on the Coaſt of *Newfoundland* and dryed, is called *Poor-Jack*.

Our Veſſels ſet out from *Dartmouth*, *Plymouth*, and many other places about the beginning of *March*, and continue Fiſhing all the Summer, and give over about *Michaelmas*.

The manner of catching is the ſame as of *Iceland*, and other Cod ſave that here, it is performed in Boats near the Coaſt. In a Treatiſe called the *Golden-Fleece*, we read, that three Men at Sea in a Boat, with ſome Men on Shore to dreſs and dry the Fiſh, will in 30 days kill betwixt 25 or 30 thouſand, which with the Train-Oyle are worth about 120 *l.*

When the Shallops or Fiſhing Boats are full, they carry the Fiſh on Shore, to ſuch place where there is a Stage or open Scaffold to the Sea, where they place the Fiſh like ſheafes of Corn, where being prepared and ſalted for 24 hours time, and having the ſame waſhed out with Sea-water, they are carried forth and expoſed upon the Rocks, or the Sand to the Wind and the Sun to dry; for performing whereof a temperate Windy ſeaſon is beſt, they turn them in ſix hours which they often repeat, and in the Night lay the Skin-ſide uppermoſt to avoid Moiſture, then they Pyle them up, and a Week after expoſe them to the Air again, and after ſix days preſs them divers times, and then being dry, are laid up in Heaps or Piles in the holds of Ships, as well cured, and fit for Market, either for preſent expence, or for long Voyages, and is much uſed by the *French* and *Spaniard* for that purpoſe.

In

In *Purchas's Pilgrims*, page 1886, we find, that in the year 1622, in the Narrative of Capt. *Richard Whitburnes* Voyage, that the Fishery there was then very considerable.

The Bank is a Sandy Ground, 12 Leagues broad, and in length tending *North-East*, and *South-West* above 110 Leagues, 20 fathom deep on the shalloweſt part, abounds with Fish all the year, by curing rendred Green-Fish, worth 5 *l.* or 6 *l.* the hundred.

He saith that the *French*, *Biscayers* and *Portugals*, fetch from the Coast and the Bank, which lieth within 25 Leagues of the South Cape of that Country, and from the Coast of *Canada* which lieth near unto it, above 400 Saile of Ships Ladings yearly.

That the *French* use to Fish both Winter and Summer, making two Voyages every year thither, curing Green-Fish on the Bank, and Poor-John on the Shore.

That the *English* in the year 1615, had about 250 Saile great and small, the Burthen and Tonnage of the whole, he computes at 60 Ton each Vessel one with another, to be 15000 Tons, and allowing 20 Men and Boys to each Vessel one with another, there were no less than 5000 Persons employed.

Each Vessel held one with another, by a rationol Estimate 120 thousand Fish, and 5 Ton of Train Oyle, and all these Sold after the rate of four pounds the thousand, amounted in Money to one hundred and twenty thousand pounds; this is not a penny a Fish, and if it yielded less it was ill Sold.

To which must be added the Train Oyle being 1250 Tons, which at a cheap rate of 12 *l. per* Ton, makes 15000 *l.* more, to which may be added the Overrate and profit in Foreign Countries; and it is a considerable Gain obtained by the sole Labour, and Industry of Men, without Exchange or Exportation of our Coin and Native Commodities, or other adventure than of necessary Provisions for the Fishing, as Salt, Nets, Leads, Hooks, Lines and the like; and of Victuals, as Bread, Butter, Beere, Beef, Pork, Cheese, Pease, *&c.* By which means many Tradesmen are Employed, as Bakers, Brewers, Ship-Carpenters, Coopers, Smiths, Rope-makers, Line-makers, Hook makers, Pully-makers, *&c.*

The

The Merchants in their Petition and Remonstrance in 1659, set out the State of this Fishery as followeth,

We had many hundreds of English *Ships, and many thousands of Seamen, that had their constant yearly employment for* Newfoundland, *and being Laden with Fish, the most of them Sailed from thence for several Ports of* Spain, *and its Territories; as from* 50 *to* 60 *Ships for* Bilboa *and St.* Sebastian, 40 *to* Cadiz *and* St. Lucar, 20 *for* Malaga *and* Velez, *from* 20 *to* 30 *for* Alicant, Valencia, *and* Cartagena: *Besides others that went to the* Groyn *and other Port Towns in* Spain; *the most of the remainder went for* Maiorca, *and* Minorca, Sicilia, Sardinia, Naples, *and spent in the Dukedom of* Milan, *and in Victualing of their* Gallioons, *Gallies*, &c. *Hereby*, (*well considered*,) *we had great advantages, for that clearly there was added to the Stock of the Nation, at least five hundred thousand pounds* per Annum, *and so much got out of the Sea, by the Labour and Industry of our People, and the Shipping maintained. And it was also a Nursery for Seamen, breeding more than all other Trades whatsoever; they carry not out so much Beef and Bread as they would have Eaten in* England; *the most of their Food being Fish: And if they had not been thus Employed, perchance they might have lived idly at Home, and so have been unprofitable Members of the Common Wealth, and to have had their Subsistances from other Industrious Persons.*

Whilst we have assisted the French, *they have in a manner got this whole Trade; this year they had above* 250 *Ships at* Newfoundland, *and have obtained free permission from the King of* Spain, *to enter into the Ports of* Bilboa, St. Sebastians, *and* Pasaque, *with their Fish and Men, where they do not only furnish the Men of War that take us, but the Fish is carried from three to four hundred Miles up in the Countries of* Spain.

St. John de Luz, *had not formerly above* 8 *Sail of Ships, and this year they have had near fifty Sail, a good part of which were* English *Prizes, and without doubt incovertly the* Spaniards *have a great interest in them, and it will be a hard matter now to get this Trade again from the* French.

Thus they, and the *French* are said to be more numerous and Industrious in that Trade than heretofore, whereas the *English* much decline, the causes whereof are;

A Governour was setled there in 1638, by King *Charles* the first, with a Power of leavying Impositions for liberty to Fish in our Harbours, namely the *French* paid 5 *per Centum*, which made them to retire to the Southside of the end of the *Island*, where they built two Forts, and Fish from *Cape-Race*, Westwards: and in the year 1670, took in two Bays more to wit, *Placentia* and *Passara*, and have above five times increased their Fishery, Ships, and Vessels, since they had a Governour, and they Fish four Months in the year more than we, and thereby make double Voyages. Our Planters observing this, took the opportunity in the absence of our Fishery Vessels, to Burn and destroy Woods, and the Stages and Houses we left standing, and remove and carry away the Boats, Rayles, Cask, Salt, Nets, and Pans for Boyling of Oyle, which we left there, to remote Places, where we cannot, or do not usually Fish, to the end that by selling the same to our own Interlopers, that come sooner, or stay longer than the Fleet, to the *French*, and to the *New-Englanders* for Provisions, and by destroying the young Fry, they might Fish as long as the *French* when we are gone, to the end they might furnish them, *&c* before we come. To which corrupt Practises we add some of our own, Namely, that those that come first destroy the Stages (if remaining,) of those that arrive afterwards, to the end they may get a Voyage before them, and many of our Vessels cast their Ballast in the Harbours; which corrupt Practises being complained of in Parliament, an Act was obtained, for Regulating the Fishery, *viz.* 16° *Car.* 2. *Chap.* 16. where we read it Enacted.

That no person whatsoever, do Collect, Leavy, or take, or cause to be Collected, Leavyed, or taken in Newfoundland, any Toll, or other Duty of, or for any Cod, or Poor-John, or other Fish of English Catching, under pain of the loss of double the value of what shall be by them Leavyed, Collected or taken, or caused to be Collected, Leavyed, or Taken. And that no Planter or other Person, or Persons whatsoever, do lay any Seynes or Nets, in or near any Harbour in Newfoundland, whereby to take the Spawn or young Fry, of the Poor-John, or for any other use or uses except for the taking of Bait only, upon pain of the loss of all such Seynes or Nets,

and

and of the Fish taken in them, or of the value thereof, to be recovered in any of his Majesties Courts in Newfoundland, or in any Court of Record in England or Wales, by Bill, Plaint, or other Action, wherein no Essoign, Protection, or Wager in Law shall be allowed.

And it is hereby further Enacted by the Authority aforesaid, that no Planter, or other Person or Persons whatsoever, shall Burn, Destroy, or Steal any Boat, Cask, Salt, Nets, or other Utensils for Fishing, or making of Oyle, or other Goods or Merchandize left in any Harbour, in Newfoundland or Greenland, by English; or Burn, Pull down, or Destroy, any House Built by English in Newfoundland or Greenland, to Live in during the Fishery Season; or Stage Built by them in either of the said Places, for the Saving or Ordering of Fish or making of Oyle, upon pain of the loss of double the value of what shall be by them Stoln, Burnt, or Destroyed, to be recovered in any of his Majesties Courts in Newfoundland, or Greenland respectively, or in any Court of Record in England; by Bill, Plaint, or other Action, wherein no Essoign, Protection, or Wager in Law shall be allowed.

After this, our *Western* Fishery Adventurers met with little or no redress of these Inconveniences, but rather fresh Discouragements, namely in 1665, the *Dutch* War being broke out, our *Newfoundland* Fishery notwithstanding proceeded, but out of our Ships about 1000 Men staid on Shore, to avoid being Prest to Sea in case they had returned, and these joyning with the Planters in their mischeivous practises, caused so much dammage to ensue, that the Town of *Dartmouth* humbly represented to his Majesty by Petition about the year 1670, (as I remember being then a Clerk in his Majesties Council of Plantations,) that themselves in one year had lost eight thousand pounds, and that in three former years, the Adventurers in general had lost after the rate of 6 *per Centum per Annum.*

And for Redress, craved the assistance of some Men of War as a Guard, with power to discover, encounter, and bring away our Men on Shore, which was granted, but returned (as I am informed) *re infecta*, having brought away very few.

They further craved of his Majesty the building of Castles, and setling of Garrisons and Plantations there in some eminent Ports, for which they alleadged reasons to the following purport.

1. That if we did it not, we might be prevented of the opportunity in the best Harbours by others, who hold such design Honourable, Lawful, Profitable, Easie, and Necessary.

2. That *Newfoundland* is an *Island* bordering on *America*, and lies in Latitude from 46 to 52°, and is nearer to us than any other Plantation, being but about 700 Leagues, or 10 or 12 days Sail from *Ireland*, and bigger than it.

That it was first discovered by *Sebastian Cabot*, at the charges of *Henry* the *7th.* King of *England*, in the year 1496, and Sir *Humphrey Gilbert* took Possession thereof in the year 1583, in the name and to the use of *Queen Elizabeth*; that it hath divers *English* Plantations setled in it in the Reign of King *James* and *Charles* the first.

3. That it is in a healthful temperate Climate, much hotter than *England* in Summer, to wit, from *June* to *Michaelmas*, and no colder than the *North* of *England* or *Hamborough* in Winter; and by reason of its Verdure, cannot but be proper for Corn, Hemp, Flax, Rootes, Pulse, and Herbs of many kinds, of which kind some have seen fairer Crops for the quantity, than any growing in *England*, the Spring beginning there at the end of *April*, and the Winter at the end of *December*.

4. That the *Northern* parts of it are Hilly and Woody, but the *Southern* are a plain Champaign Soyle, and yields many considerable Growths and Commodities, *viz.* Trees,

As Pine, Birch, Spruce, Firr for Deal-Boards, Masts, Cypress-Trees, Oaks, Cedars, Hawthorns, Alder, Willow, Bark for Tanning and Dying of Nets, Charcoal for Iron.

And out of these Woods may be had, Pitch, Tar, Rosin, Turpentine, Frankincense. Soap-Ashes, Honey out of hollow-Trees.

FRUITS.

FRUITS.

As Vines, Goosberries, Rasberries, Mulberries, Filbeards, Strawberries, Hartles, Cherries, Wild-Peaſe: *Engliſh*-Seeds have proſpered there exceedingly, as Beans, Peaſe above a Man's height, Raddiſh, Cabbage, Turneps, Carrots.

WILD BEASTS.

As Beavers, Sables, Black Foxes, Hares, Marternes, Musk-Rats, Seales, Otters, which yield Furs; Deer called Ellans as big as Oxen.

FISH.

Mackarels, Salmons, Peales, Herrings, Eeles, which may be ſalted and barreld for Exportation; Halybuts, Flookes, Pearles in them, Lobſters, Crabs, Muſcles, Oyſters, Muſcles with Flounders, Launce, Caplin, Trouts, and many Sea-Monſters, and much more beſides in many Springs, Rivers and Lakes.

FOWLE.

Partridges, Penguins, Pheaſants, Thruſhes, Black-Birds, Canary-Birds, Geeſe, Ducks, Pidgeons, Gulls, Godwits, Curlews, Swans.

CATTLE.

Many ſorts, as Wild-Hogs, Goats, *&c.*

To which inducements were added the neceſſity of ſuch Plantations, for employing abundance of Poor, and breeding up of Fiſhermen; the third of the Men that go a Fi.ing being Green-Men, that never were at Sea before; and the cheapneſs of their being tranſported in compariſon of other Plantations.

And the great advantage by their being there, to Build and repair Warehouſes and Stages, in readineſs against the Arrival of our Ships, who ſpend 20 days in Building of Stages.

And Laſtly, The conſiderable Livelyhood they would get, in catching and curing of Fiſh in readineſs againſt our Ships Arrive, whereby we might make two Voyages in a Summer.

Notwithſtanding all which inducements, the Sea-Ports are neither ſtrengthened nor Inhabited, the reaſon whereof may be, in regard the Coaſts are extream cold, when the *Iſlands* of Ice paſs along the Shore; which Ice there found in the Spring of the year, comes from the *North*, and is there diſſolved in a ſhort time. One Capt. *Edward Wynne*, Governour of Mr. Secretarie *Calverts* Plantation, in a Letter dated the 17*th.* of *Auguſt* 1622, aſſerts notwithſtanding, that it was not ſo cold there the laſt Winter, as it was in *England* the year before, that he remembred but three ſeveral days of hard Weather, and thoſe not extream neither, he having known greater Froſts, and far greater Snows in *England*.

Our ſcattering Plantations there are in the South part, where live none of the *Savages*.

The chief Harbours are *Trinity* Harbour, which is ſaid to be the beſt in Chriſtendom except *Milford* in *Wales*, ſeated in the entrance of a *Bay* of the ſame Name, on the Northſide of which are divers other Harbours, and one noted River in the Body of the Land which lies *Northweſt*, where may be had a good Trade with the Natives for Furs.

About 20 Leagues to the *Southward*, is another excellent Harbour called St. *Jones*.

And 15 Leagues to the *Southward* of it, is the Harbour of *Ferriland*, and theſe, with *Formoſa* and *Renowſe*, are the chiefeſt that our Nation frequents in Fiſhing time, though there be about 20 good Harbours more, but the main of our Fiſhery lies from *Cape Bona Viſta, Northwards*.

But the three firſt are moſt fit and capable of being Planted and fortified, for *Ferriland* lies within 3 Leagues of the furtheſt *Southward* Harbour; we frequent *Trinity* Harbour within 10 or 12 Leagues of the moſt *Northward*, and St. *Jone's* near *Midway*.

The

The Council of Plantations considering what a great charge it would be to his Majesty to build Castles, maintain Garrisons and a Governour there, and that three former Addresses to his Majesty to the same purpose had been rejected, refused to make any Report to that purpose, and perchance the same scruples yet remain.

Of Anchovas.

THese are commouly Imported from *Genoa* (in *Italy*) in Barrels that hold about 3 Gallons, weighing about 36 pound, which are commonly Sold at 10 or 12 pence the pound, and such are there salted with *Spanish* Salt, into which they put a Pickle made of Salt, Red-Wine, or the Lees thereof, with powder of Saunders. Mr. *Alcorne* (oft before mentioned) saith, that many barrels of them are yearly lost, by reason of the Corrosive nature of the Salt; that he hath bought divers barrels of them, and to prevent such loss, hath taken them out of their old Salt and Pickle, and repacked them with his own *Portsea* Salt and Pickle, by which means they have been preserved two years longer, than otherwise they could have been.

And now we have good News to tell the Reader, namely, that they abound on the Western Coasts of *Wales* and *England*, for proof we offer the following Reasons.

1. I am informed, that the Learned Doctor *Pope*, Astronomy Lecturer of *Gresham-Colledge*, and a Member of the *Royal Society*, affirms, that he had long since eat of them at *Westchester*, and concluded them to be of the same kind he had met with in *Italy*.

2. M. *Henry Wynn*, Mathematical Instrument-maker in *Chancery-Lane*, who hath some concerns in *Wales*, went thither last year, where he eat many of them, and found they did dissolve as *Italian* Anchovies, and proved as good, and many barrels of them were Salted, Pickled, barreld up, and Sold about the Country as such, and were esteemed very good; albeit there they are called by the name of Shads.

The

The said Mr. *Wynn* affirmed, that Doctor *Lloyd*, the late Bishop of *Bangor*, had caused many to be caught in a little Arm of the Sea in his Bishoprick, in Summer time, when they are in season and arrive, which were salted up; and recommended me to his Lordship to be informed of the truth thereof, who courteously received me and affirmed, he had brought up some Gally-Pots of them to *London*, and that here as his Servants well knew, they were concluded to be right Anchovies; that he had none left, but promised to send me up a Gally-Pot of them, but Death prevented.

4. One Capt. *Lloyd*, a *Welch* Gent. that Printed a Paper of the Fishery of *Wales*, affirms, that Shads are so common there, that he hath ordinarily caught three or four hundred of them at a Draught, after what manner he saith not.

5. Mr. *Eustace Burnaby*, gave me a few Anchovies out of a Gally-Pot, that he said were caught on our own Coasts and *English* cured; which I carried to some Fishmongers, who approved them to be right Anchovies, that did dissolve for Sawce, though in truth they were somewhat larger and not so red as Foreign.

Now having done our remote Summer Fishing, we draw near home to an Autumn and Winter-Fishery.

Of Pilchards.

The sole Fishery thereof in England, *is on the Coasts of* Cornwall *and* Devon, *the manner of Catching and Curing, with the Inconveniences and Remedies thereof, so well as Mr.* Alcorne (*without any or but small experience*) *on suddain Notes taken from him, are as followeth.*

1. THey go a Fishing near the Shore on the Coasts of *Devon* and *Cornwall*, in the Months of *August*, *September*, *October*.

2. Director on Shore, by the Colour of the Water espie where the Shoales are, and make signs to the Boats to get into the middle of them.

And

And this they are empowred to do in any Mans Ground, by the Statute 1 *Jac.* 23. which runs thus: In the Counties of *Somerset*, *Devon*, and *Cornwall*, it shall be lawful for Buyers of Fish to go upon any Mans Ground, near the Sea Coast, to Discover Fish, and for Fishermen to dry their Seames and Nets, without danger of committing Trespass.

3. The Boats as soon as Laden bring them to a Warehouse on Shore, where they are laid up in Piles, as broad as a large Table, supported with backs or sides.

4. In the Piling of them up, they are salted with Bay-Salt, in which they lie soaking 20 or 30 days together, in which time there runs away much Blood, dirty Pickle and Bittern, which Bittern draws forth much of the Oyle from the Fish, before it comes to the Press, to the great loss of the Undertakers.

5. When they are taken out of Pile, there remains much Salt at the bottom of the Pile, intermingled with much Dirt, Blood and Scales.

To prevent the loss thereof, if they have opportunity, they make another Pile, and use the same with more fresh Salt. if not, it may be presumed they must be content with the Loss, for the Salt is continually wasting, and at last little left but the Dirt and Sand the Salt afforded, and Scales of Fish

6. Then they wash them in Sea-water, to wash off the Dirt and the Blood.

7. When they are dreyned, they are put into barrels and Pressed, to drive out their Oyle, which issues away at a hole in the bottom of the Cask, and are then accounted fit for Exportation, to *Spain* or other *Southwardly* Countries.

The Inconveniences of this Method are;

1. THe badness of the Salt, it being incumbred with much Dirt, Sand and Bittern, carries away the Oyle, Goodness and Moisture of the Fish, which is absolutely lost.

2. By reason the Salt is not of a proper size, it doth not dissolve in due time; hence twice as much as need be, is used, and much time and pains lost.

These

These Inconveniences may be prevented by the use of Englisſh *refined Salt, made from Brine raised by the Sun, and Embodyed by Fire, thus,*

1. IN half the time of *Article* the 4*th.* aboveſaid, the Brine and Oyle, or Pickle that runs away, having no Dirt in it, may be received in a Well or Receptacle, at the end of the Pile, and what Oyle ſwims may be ſcumm'd or taken away, and put into a ſeparate Cask.

2. The remaining Brine having no Dirt or Bittern in it, is of it ſelf a good preſervative for Fiſh, and may be thrown on the ſame three or four times over, to haſten the diſſolving of the Salt, by which means there will be much time and Salt ſaved.

3. When it becomes Bloody and Scaly, it may be Boyled and ſcumm'd, and ſo refitted for further uſe.

4. When the Fiſh are waſhed and dreyned, they are fit to be Preſſed as before, and will not have that fiery taſt which the Bittern occaſions in the former method, and the waſhing, in regard the Fiſh are not Dirty, need not be performed in the Sea but in a Storehouſe, where one Hogſhead of Water or Sea Liquor will waſh many Laſts, and may by often uſe, be made ſo ſtrong by the Salt hanging on the Fiſh, that being laved on the Pile, will not only ſupply the uſe of Salt, but haſten the curing of the Fiſh, by melting the Salt in which they lay ſoaking.

Other Benefits ariſing from the uſe of Refined Salt.

1. THoſe that are caught at the firſt arrival, may be ſalted as white Herrings, and kept a year more or leſs, and will be more acceptable than ſuch Herrings, by reaſon they are more fat and Oyly; furthermore they may be uſed for Sawce like Anchovies: Namely, to be minced, beaten, and diſſolved in the Sawce, with a digeſtive gentle or ſimmering heat.

This

This sort are commonly called *Fumathos*, and so they are denominated in an Act of *Parliament*, 14. *Car.* 2. *Cap.* 28. out of a barrel of this kind which had its Pickle, I had some given me, which were dressed at a Tavern raw like Anchovies, and eat very like them to the great content of the Partakers; whereas a barrel of them sent to a Merchant that had lost their Pickle, proved rusty and naught.

2. They may be cured with a Pickle, and barreld up like White-Herrings; For the reason why in the common Method they press out the Oyle, is because they know not how to cure them in the Pickle, which may be done by Repacking them with dry refined Salt, and the Cask afterwards fed with good Pickle at 6 or 8 hours distance.

3. After the first or a little salting, they may be Deesed and rendred like Red Herrings.

4. In this Method not so much Oyle is drawn out of the Fish, and yet more may be saved than in the former Method.

5. Refined Salt is not of a fiery, dry, burning, corroding, mortifying Quality, rendring an ill tast, but quickly pincheth and peirceth and keeps the Fish cool and moist in a hot Climate, whereby fermentation is prevented.

Of Herrings.

In Mr. Simon Smiths *Book Intituled the Herring Buss-Trade, they are thus distinguished.*

1. *Sea-Sticks* are such as are caught all the Fishing season, and are but once packt; A barrel will hold 6 or 8 hundred, as they shall rise in bigness, 8 barrels to the Ton by the Law: A hundred of Herrings is to be 120, and a Last ten thousand, we commonly reckon 14 barrels to the Last.

2. There are repackt on Shore, and are called Repackt-Herrings, 17 barrels of *Sea-Sticks* will make from 12 to 14 barrels of Repackt ones. The manner of Repacking is, to take the Herrings out of their Pickle, washing them in their own

Pickle, and so lay them orderly in a fresh barrel, which have no Salt put to them, but are close packt, and headed up by a Sworn Cooper, with Pickle when the barrel is half full, that is to say, with Brine so strong as a Herring will swim in it.

3. *Summers* are such as the *Dutch* Chasers or Divers catch, from *June* to the 15*th.* of *July*; these are Sold away in *Sea-Sticks* to be spent presently, in regard of their fatness, and will not indure Repacking, and so go one with another full and shotten; but the Repackt Herrings are sorted, the full Herrings by themselves.

4. *The shotten and sick Herrings* are put into barrels by themselves, marking the barrel distinctly.

5. *Crux Herrings* are such as are caught after the 14*th* of *September*. These Herrings are cured with Salt upon Salt, and are carefully sorted out, (all full Herring,) and used in the Repacking as before mentioned.

6. *Corved-Herrings* serve to make Red-Herrings, and are such as are taken in the *Yarmouth* Seas, from the end of *August*, till the middle of *October*; provided they can be carried on Shore within a Week less or more after they be taken.

These are never gipped, but rowed in Salt for better preservation of them, till they can be brought on Shore; and such as are preserved to make Red-Herrings, are washed in great Fats in fresh-water, before they are hanged up in the Herring-Hangs, or Red-Herring Houses.

The manner of Salting.

1. THe Nets are haled on Board, and the Herrings are taken out of them, and put into the *Warbacks*, which stand on the side of the Vessel and resemble Chests.

2. When all the Nets have the Herrings taken out of them, one fills the Gippers Baskets.

3. The Gippers cut their Throats, take out the Guts, and fling the full Herrings into one Basket, and the shotten into another.

One

4. One Man takes the full Basket, when they are Gipt, and carries them to the Rowerback wherein is Salt.

5. One Boy doth Row, and stir them up and down in the Salt.

6. One Boy takes the Row'd Herrings, and carries them in Baskets to the Packers.

7. Four Men Pack the Herrings into the Barrel, and lay them one by one streight and even.

8. One Man when the barrel is ful, takes the same from the Packer, and it stands one day or rather more open to settle, and that the Salt may melt and dissolve to Pickle, and then fils them up, and heads up the Barrels.

The Pickle must be so strong that a Herring may swim in it, and then it doth so pine, and overcome the nature of the Herring, that it makes it stiff, and preserves it; otherwise if the Pickle be weaker than the nature of the Herring, it will overcome the strength of the Pickle, and so the Herring will decay.

One barrel of Salt will cure three barrels of Herrings, and it is common to allow 2 barrels of Salt in a Last, of 14 barrels to War withall, that is to rowle the Herrings in the Salt before they are Packt.

To the *Dutch* Laws before mentioned, we may add another made this year, *viz.* That no Herrings shall be caught after the 20*th.* of *November*, being their St. *Andrews* day.

The great plenty of Herrings round the Coast of *Ireland* is notorious, one instance whereof we have mentioned in *Dublin-Bay*, page 67; that there is the like plenty on the Coasts of North and South *Wales*, is asserted by Capt. *Lloyd* before mentioned in page 102, because those pidling Boats which the poor and ignorant Fishermen now use, being but of four Tons Burthen, open, and no ways capable to bear the least Storm, yet take sometimes 60 Mesh at a Tide, which are three Lasts of Herrings, and if their Boats would contain one hundred Lasts, they might fill them. Upon these Coasts there are from 60 to 80 of these Boats, and though they catch a great quantity of Herrings, yet ignorance, want of Method and Money, keep them in great Poverty Moreover he saith 'tis certain that 3 or 4 Busses or Doggers shall catch more Fish than all those Boats do now; yea and that the Under-

takers shall reap a greater advantage, by the Herrings caught by these Boats, than the Fishermen shall that catch the same.

To promote the Expence of Pickle-Herrings, we recount the ways they are dreſt.

1. THe *Dutch* cut off the Head, Taile, the bottom of the Belly, take the Rows out, and the Skins off, and then cut them into peices, and commonly eat them with Oyle.

But here we mince them small, and besides the Oyle, put in minced Onions, Lemmon, Apples.

At the House of *Signior Dominico* an *Italian*, at the Sugar-Loaf against the South end of *Jackanapes-Lane*, they are sold ready and excellently prepared without Bones in Gally-pots with Oyle, which upon experience may be thus done, for keeping very well for a Week or longer.

1. The Bones being taken out, chop them very small with some Lemmon-Peele.

2. Take some Onyons and pared Apples, cut them small, and Boyl them together till they be soft.

3. When they are cool mix them with the Herrings, with Oyle, Vinegar, and Pepper, and keep them closer in a Gally pot.

These prove excellent to Eat, and may be a good ingredient in some Sawces.

The said *Signior Dominico*, is noted for the many sorts of Fish, which he *Marines*, or renders *Marinado'd*, and for the great Vend thereof, both abroad and at his own House.

Of

Of Baked Herrings.

These are called Virginia-Trouts, *and are Sold in many Victualling-Houses at a penny each, and are thus to be Ordered.*

1. THirty or Forty pickled Herrings may be put a soaking into a Pan of fresh-water two days or less, in which time the water is to be changed twice.

2. In the Pan in which they are to be Baked, put in a lay with the head one way, and the tail of the next the other way, and the second lay cross these in the like manner, *&c.*

3. Then take a Pint of White-Wine-Vinegar, a Pennyworth of Cloves and Mace beat together, half a Pennyworth of the Powder of *Saunders*, and a couple of Onyons minced or cut small, put these into the Pan, and Baking it with the Wifes Bread, the Bones will be found dissolved, except the Back-bone, which will be very Crisp.

4. When cool, they are fit for Eating, with a Spoonfull of their Pickle mingled with Elder-Vinegar, and if to be kept, cover the Pot close.

Some after they are done, eat them without their Pickle, mashed small with some Lemmon and Oyle.

Of Bloated and Dryed Fish.

DIvers Summer fat oyly Herrings arrive, a Month before we have any from *Yarmouth*.

These the Fishmongers say are bloated as followeth, to wit, they sink them 3 or 4 hours in a Brine, made strong as hereafter mentioned, and then hang them up a drying in Chimnies, and 'tis said they will keep a Month and are very acceptable, namely when they are to be spent (after the manner of Larkes,) they thrust a Spit through their Gills, and hang them near a Fire, sometimes changing the Spit

Spit end for end, to serve in the nature of Broyling on a Gridiron, or the Coals, to which it is much to be preferred; when these are thorough Roasted (pardon the Simile,) they are put into a Dish with good Butter and an Anchovie and a Shellot dissolved, and then served in.

After the same manner I have eat Herrings, Mackarel, Whitings, *&c.* which proved very good, solid, like barrel-Cod.

To mend the method aforesaid, a Tin frame might be used and placed in a Chimney, in the form of a Cupboard, but without a bottom, with two Doors, the one at the bottom (with a Pidgeon hole in it,) to open and make a Saw-dust and Small-Coal dust Fire, to be kindled or enlivened with Straw, and to draw in Air at the hole aboveſaid, which might have a little Door to prevent Cats.

The top of this Cupboard to be firm Tyn, with a Nossel or Snout in it of Tin like that of a pair of Bellows, covered over to prevent Soot, to which and on Ledges athwart divers hooks to be hung, whereto to hang the Fish, Sheeps and Hogs Tongues, *Bononia* Sawcedges, *&c.* to be dried.

And after this manner the Fishmongers may preserve much Fish, they can neither sell nor spend, provided it do not stink before they use the Remedy.

Of Thornback, Maids, or Skate.

AT *Whitby* in *Yorkshire*, *Robin-Hoods Bay*, *&c.* and in some parts of *Cornwall*, there is much of this sort of Fish caught in Summer-time, which they cure by only drying.

To wit, the Fish being slimy they drag it on the Sands, split it, take out the Guts, and hang it a drying in the Sun and the Wind; sometimes if the Weather be too moist, it may be annoyed by Flies and Maggots, to prevent which, one that had experience adviseth, to strew on the Dust of *East-India*-Pepper, which may be had at a Penny or three half pence a pound, and how well it mingled with Salt might save some kinds of Fish, might be an experiment the *East-India* Company might have tried with little Charge.

At

At *Whitby* also I am informed, they make much *Haberdine* of Cod caught in the *Offing*, salted with *Newcastle* Salt, and then dried in the Sun and the Wind, and 'tis said it proves very white and good.

'Tis also affirmed, they barrel up some Herrings salted with that Salt, and abundance of young Cod or Codlings which are brought to *London*, to supply the want of barreld Cod, which ought rather to be spent.

And this I should have inserted sooner, to wit in page 13, but had no account of it, from those whose interest might have induced them to have imparted it.

Of Conger Eeles.

THey are in the Coasts of *Cornwall* of a very large size, even a heavy Burthen to a Woman to carry, they are often found in Pits on the Sands when the Sea is out, and in regard they cannot retire are there caught, carried on Shore, splitted and gutted, and then so long dried in the Sun, that they may be reduced to a Powder, which goes off in *Portugal*, *&c.* and serves instead of Oatmeal; many miscarry in the drying as proving full of Flies and Maggots.

Of Fresh and Barrell'd Cod.

THe Catching of them is best performed in Vessels, called *Doggers*, burthen about 80 Tuns, with a Well like a Cullender in the middle, into which to put the live Cod, to bring them to the Shore, or Rivers Mouth; in which, without any sustenance, (which they refuse being in Captivity, they will live a fortnight, or longer, in Salt Water, but presently dye in fresh-Water.

The manner of Catching may be such as is described in Page 87. but some of our own Doggers, and the *Dutch*, (who have out this Winter 220 Doggers,) catch them in the manner following; namely,

Each

Each Dogger is furnished with 100 Lines, of 150 fathom long, each; which are bigger than *Hamborough*-Lines, or somewhat less than an Inch about.

To each of these are fastned 20 Snoods, *alias* Nossels, which are small Lines, with Hooks and Baits at them; the Baits about *Michaelmas*, (when this Fishing begins,) are Herrings, with which they may bait till the end of *November*, afterwards till *Lady-day*; (when this Fishing ends,) they bait with *Lampernes*.

The places where they are commonly caught, are upon Banks, where the Dogger may Anchor, the Principal is called the *Dogger-Bank*, against *Flamborough* Head; the manner thus: The Dogger being under Sail, Sails to Windward, and Veres, or Shoots these out at her Stern, all fastened one to another, with 12 Can-Buoys to them all, and an Anchor to each Buoy, to catch hold in the ground, with Ropes to weigh them, fitted to each, suitable to the depth.

Moreover, there is a great Buoy at the hither end, called the *Ships Buoy*; when all are Veered out, the Dogger comes to an Anchor, and Veers out her Cable, to which the former range of Lines is fastned, and after she hath rid 10 or 12 hours, (beginning commonly at Night,) they begin to hale in their Lines, which they may be 6 hours in performing, and sometimes meet with a great draught of Cod, that which they catch first, or such as die in the Well, they Salt and barrel up as soon as they are dressed, and prepared for salting, as before mentioned in page 88.

They salt them well with refined Salt, laying them Circularly round the barrel with the Tails towards the middle, where to supply the Descent, a whole Cod is laid in; between each lay of Fish they put in a Lane of Salt, and so fill up to the Head which is well covered with Salt, where after 24 hours time they will settle and make room for more; and when the barrel is full they head them up full of Pickle, and they are sufficiently cured for these Climates.

These are acceptable in Foreign Countries, where it is customary to dress them with Oyle, and that because they are not over Salt, are firm, white, have a good tast, and will keep long.

Whereas

Whereas ſhould they be cured with *French* Salt, they would become dirty, yellow, and ſo mortifyed or pyned, that they are of no long Continuance.

If they are to be long kept, and carried into a hot Country, they ought to be packt very cloſe, with more Salt between each Fiſh than is uſual, filling up the Cask at the top with Pickle, or rather may be Repackt with freſh Salt and Pickle; as is mentioned in page 90.

Roes of Cod well Salted and Pickled are here neglected, but are ſaid to yield a good price in *France* to make Sawce withall.

When the ſame are to be uſed, bruiſe them betwixt two Trenchers, and beat them up with Vinegar, White-Wine *&c.* then let them ſtew or ſimmer over a gentle Fire, with Anchovies and other Ingredients uſed for Sawce, putting the Butter well beat up thereto: We our ſelves on the Coaſts uſe the Roes of Freſh Cod for Sawce.

The *Dutch* and *Danes* are ſaid to bring home from *Iceland*, whole Ladings of Roes to put into Ponds to feed Eiſh withall, and ſometimes they are bruiſed and thrown into Rivers, to raiſe the Fiſh.

THE COOKERY, OR Dreſſing of Fiſh.

There are many other excellent ſorts of large Fiſh, which might be treated of, as Ling, Mullet, Halybut, Haddock, Turbut, Sturgeon, &c. *But theſe being ſcarce on our Eaſtern-Shores, I am willing to defer what I have to ſay, till an other Edition, and proceed to the Cookery part, as judging it but neceſſary after ſuch a Harangue of Catching and Curing of Fiſh; and herein I am beholding to Mr.* John Bull *for the following Receipts, it being well known that he ſerved an Apprenticeſhip to a Cook, and hath been eminent for his Skill therein, which he hath put into Practiſe for about* 30 *years together.*

Stockfiſh

BEat it ſoundly with a Mallet for half an hour or more, and lay it three days a ſoaking, then Boyl it on a ſimmering Fire about an hour, with as much water as will cover it till it be ſoft, then take it up, and put in Butter, Eggs, and Muſtard champed together, otherwiſe take 6 Potatos (which may be had all the year at Seed-Shops;) Boyl them very

very tender, and then Skin them. Chop them, and beat up the Butter thick with them, and put it on the Fiſh and ſerve them up. Some uſe Parſnips.

The like for Haberdine and Poor-Jack, I ſhould be aſhamed of this Receipt if we had no better to follow, and think it too mean to mention any thing about Green-Fiſh or barreld Cod, but the watering or ſoaking before they are Boyled.

Oyſters.

The Deſcription of the Nature, Generation, and Ordering of Green Oyſters, commonly called Colcheſter-*Oyſters; the Reader may meet with in the learned Doctor* Sprats *Hiſtory of the* Royal Society, *page* 307, *&c. theſe raw being a general ingredient in what follows, obtain the precedency in Diſcourſe.*

To Stew Oyſters.

THoſe that are moſt fit and commonly Stewed are large Oyſters, ſome of which in opening bring away part of the Shell, and ſometimes ſome Dirt; to get quit of which, take them in your Fingers one by one, and waſh or gently rub them in their own Liquor, mingled with a quarter of a Pint of Elder Vinegar, putting them into a Stew or Sawce-Pan, into which put their own Liquor, after it hath been Streined (to cleanſe it) with an Anchovie and three or four Cloves, and let them Stew or ſimmer over a gentle Fire till they are enough, which may be in half an hours time, and when that's done, take a quarter of a pound of Butter melted apart with a Shellot, which put into a Diſh with them and ſerve them up.

To Fry Oyſters.

TAke a quart of Oyſters out of their Liquor, and waſh them in it as before.

Then ſtrein their Liquor, and ſimmer it up with an Anchovie; take three yolkes of Eggs, beat them up in a Porringer with a little Water and a little Flower, dip the Oyſters into it, and they will reſemble Fritters; then put them into a Frying Pan which comes hot from the Fire, covered with hot Beef-Suet, in which fry the Oyſters. then put them into their Liquor, ſimmering as aforeſaid with an Anchovie.

To pickle Oyſters for divers Months keeping.

LEt a quart of Oyſters ſtand a little while after they come out of their ſhells, then take them out of their Liquor, and waſh them in fair water, then put them into a Stew-Pan with their own Liquor, a pint of White-Wine Vinegar, a penny worth of Cloves, a little Lemmon or Orange-Peel, and 3 or 4 Coriander-Seeds, ſimmer them altogether, with a little Salt about the ſpace of half an hour, then keep them cloſe in a gally Pot, and in 4 or 5 days time they will be fit to Eat and look very white.

Otherwiſe according to Mr. Alcorn.

IN opening put the the Oyſters by themſelves, and the Liquor by it ſelf, let it ſettle, afterwards poure it off leaving a ſediment behind, then put them together adding thereto Water and Salt, with Bay-leaves, or ſuch other hot Herbs as are beſt liked, then let them ſimmer over the Fire ſo long till the Oyſter is of a white Colour, and till the Finn begins to ſhrivel or contract, then take them off and out of their Liquor, laying them ſingly till they are Cool, and likewiſe the Liquor Cool, then put them into Barrels, tite Veſſels or Pots well luted, or if into an open Veſſel, poure on ſome ſweet Oyle.

This

This for common uſe, but to render them far more pleaſant to the taſt, and for longer keeping, inſtead of Water and hot Herbs, uſe White-Wine, Mace, or *Pimento, alias Jamaica* Pepper, and if you pleaſe a little ſliced Ginger, all to be ſimmered in the Pickle, which may continue longer on the Fire after the Oyſters are taken out.

To Stew Salmon.

TAke a Jowl of Salmon, waſh it very clean in an Earthen Pan, put it into a Kettle fit for it, with a Pint of White Wine Vinegar, half a Pint of fair Water, ſome Lemmon Peel, a bunch of ſweet Herbs, a penyworth of large Mace, three Wallnut-Tree-leaves (which may be always had at the Seed-ſhops,) a quart of Oyſters with their own Liquor, a Pint of Shrimps, and ſimmer all theſe for about an hour till they are enough, and then ſerve it up with the Liquor in a Diſh.

To dreſs a Cods-head, or a freſh Cod.

TAke it and put it into a Kettle, that hath a Cover fitted to it, into which put 4 Anchovies, ſix Whitings, a quart of Oyſters with their Liquor, a Pint of Shrimps, a penyworth of Mace, two Shellots, and after it hath ſimmered over the Fire about an hour, take out the two Jaw-bones, put in half a pound of ſweet Butter and ſerve it up. The like for a whole Cod, a Turbut, a Mullet.

To Stew Carps.

TAke two living Carps, prick them in the Tail with a great Pin, rub the Scales off with a handful of Salt as clean as may be, lay them in a deep Pan, and put to them a quart of Clarret which makes them Bleed, and kills them; open their Bellies and take out their Roes, then put them into a Kettle with their Roes in the middle, into which put a quart of Oyſters, two Anchovies, a bunch of ſweet Herbs, Stew them

them over a gentle Fire for about an hour, in which time they will be almoſt enough, and then put in a quarter of a pound of freſh Butter, take out a little of their Sawce, into which put three yolks of Eggs beat up together, then putting altogether in a Diſh ſtir it about and ſerve it up.

To Stew Soals.

TAke three pair of large Soals, put a little Salt on the Tail of each, and rub it hard, and the Skin will give way to be taken off; ſcrape the Scales off the Bellies, and waſh them very clean in fair-Water, dry them with a Towel, and put them into a Stew-Pan one by one, into which put half a Pint of White-Wine, a pennyworth of large Mace, a bunch of ſweet Herbs, (to wit, Penny-Royal, Time, Sweet-Marjoram, Winter-Savory,) a Pint of Oyſters with their own Liquor, three Anchovies, ſimmer them over a gentle Fire, and in half an hours time they may be enough: When you take them out of the Stew-Pan, ſcrape on a little bit of Nutmeg, ſqueeze on the juyce of a Lemmon, and put in a quarter of a pound of ſweet Butter, and ſet the Fiſh with their Broth a little while over a gentle Fire and ſerve them up.

To Fry Soals, &c.

TAke ſix Soals and put them into a Frying-Pan hot, with Beef-Suet, there let them Fry about half an hour. The like with ſix Whiting-Mops, and a quarter of a hundred of Smelts.

In the Liquor in the Pan, Fry a quart of Oyſters and likewiſe drein them, take that Liquor that dreins from the Oyſters, and ſtrein it to avoid the Grit and Shells; that done, ſet it over a gentle Fire in a Sawce-Pan with two Anchovies, and when it comes off, put in a half a pound of ſweet Butter, and ſqueeze in the juyce of a Lemmon, put all into a Diſh ſet over a Chafingdiſh of Coals, and ſerve them all up together hot, ſetting the Soals an end like a Sheaf; as alſo the Mops, and Garniſh with the Smelts and ſlices of Lemmon.

Fryed

Fryed Maycrill.

SPlit them on the Back, put them into the Frying-Pan hot, with Beef Suet, and when Fryed, make a Sawce with Anchovies, a little Butter, and a little Lemmon.

To Stew Eels.

TAke ſix great Eels and put them into a Kettle, with half a Pint of White-Wine, half a Pint of fair-Water, a pennyworth of Mace, and a pennyworth of Cloves; hang the Kettle two hands high over a gentle Fire, and let them Stew about an hour or leſs, then take ſome of their Liquor and Stew it up with an Anchovie, put it to the Eeles with ſome ſlices of Lemmon and ſerve them up.

Collar'd Eels.

TAke ſix large Eels, Boyl them up very well, in a Pint of White-Wine and a Pint of Water, with 6 or 8 Lawrell or Bay-leaves, a pennyworth of Cloves, a pennyworth of Mace, a pennyworth of white-Pepper, a little Salt at top; when they are taken off, put them in a long Pot with their own Liquor which muſt cover them over; cover the Pot very cloſe and they will keep divers Months.

To make a Broth with Eels, being a Gentlewomans Receipt.

TAke 12 Eels and put them into a Pipkin, with two quarts of Warter a little refined Salt, ſome whole Pepper, a blade of Mace, half a Nutmeg, a bundle of ſweet Herbs, let them Boyl very well, then ſtrein them, and into the Liquor ſo ſtreined put in a quarter of a pound of Currans, then Boyl it again, and when

when the Currans are Boyled enough, put in a little White-Wine and White-Bread to make it thick, and a little Sugar if you pleaſe.

After the ſame manner Whiting Broth is made; the Eels themſelves are ſuppoſed to be ſo much Boyled, that there is no further uſe made of them.

To Marine or preſerve Fiſh, as Eels, Flounders, Soals, &c. after the Italian *manner, called Marinading, a Receipt imparted by the Worthy Mr.* Alcorn.

BOyl the Fiſh gently, in a Liquor made one half with fair Water, one quarter of White-Wine Vinegar, and one quarter of White-Wine, of which Liquor make ſo much as will more than cover the Fiſh, and into it put ſome Bay-leaves, with ſuch Spice as is beſt liked; ſome put in a little Nutmeg with *Piemento* or *Jamaica* Pepper, others uſe Ginger in lieu thereof, then take out the Fiſh, and let them and the Liquor cool apart, afterwards put them together in a Veſſel with Sallad Oyle at top, Time and Roſemary may be likewiſe uſed, and they will keep well in the cool for two or three Months.

Divers Sea-Fiſh may be preſerved after the ſame manner, as Mullets, Sea-Eels, Place, *&c.*

The ſame kind of Pickle after it is cool, will preſerve cold Roaſted-Fowl, as Pidgeons, Ducks, Teal, and Widgeons, *&c.*

Otherwiſe to Marine Carps, Mullet, Garnet, Rochet, or Wale, according to a Receipt found in Printed Books.

TAke a quart of Water to a gallon of Vinegar, a good handful of Bay-leaves, as much Roſemary, a quarter of a pound of beaten Pepper, put all theſe together, and let them ſeeth over a gentle Fire, and ſeaſon them with a little Salt, then Fry the Fiſh in Sallad Oyl till it be enough, put them into an Earthen Veſſel, laying the Bay-leaves and Roſemary between and about the Fiſh, and that done poure in the Broth aforeaid, and when it is cold cover all cloſe up for keeping.

Directions

Directions for Salting of Fleſh and Fiſh for long keeping, viz. *Beef and Pork, according to the common way.*

1. AN Ox being driven in cool one day, is ſlaughtered the next, quartered, and after it hath hung a convenient time to cool, is cut into four pound pieces.

2. The ſame are very well rubb'd with Bay Salt, then put into Bins, Cribs, or Receptacles like Mangers, and almoſt buried in Salt, for the ſpace of a Fortnight, three weeks, or longer, that the bloody Pickle may run away waſt.

3. Then the Meat is again well rubb'd and pack'd or trodden into Cask, on a Cloath or Skin, with Salt betwixt every Lane or Lay, and being headed up is thrown by in Storehouſes, for ſix weeks or two Months time, but ſometimes will not keep a Fortnight, which is known by the ſcent at the Boung.

4. Then when the ſame is to be Repackt, they turn the Boung of the cask downward, that all the bloody pickle may drein away into a waſt Current.

5. Then all the Meat is taken out to be packt into Cask, ſmelling each piece, which is again well rubb'd with Salt, each lay being cloſe packt with Salt between; and when full is roll'd to the pickling place to be pickling.

The Pickle is thus made.

Diſſolve Bay Salt in freſh-water, ſo long and to ſuch a height, till upon Boyling with a brisk Fire, and ſcumming off great quantities of Dirt and Filth, it is in a readineſs to Kern or turn to Salt again, which is known by a Cream or Ice at the top. Then empty it into Coolers.

6. When the ſame is thoroughly Cold, often fill up the cask at the Boung-hole and the Meat is cured.

Beef and Pork with refined Salt, (made of Brine raised by the Sun) according to the new way.

1. THE Meat is cut out as before.

2. Rub it well every where, strew Salt at the bottom of the Cask, and put in a Lay, which covering with a Skin or Cloath, tread or pack it fast in, sprinkling on more Salt, and so up to the top, where crowd in as much Salt as you can, and head it up.

3. Then fill up the Cask often at the Boung with Brine, that may search every part.

The Brine is thus made.

Mingle Salt with Water, and let it be dissolving two or three days time, stirring the Salt at the Bottom, and if there be more Salt than the water can melt, it will be found at the bottom, and serve for a second use.

This Brine is at its proper height, when the Salt is but just dissolved, or when a piece of Beef will swim in it, or an Egg the like but half sunk in it.

4. When the Meat is to be carried a long Voyage, through a hot Climate, it were fit it should be close Repacked with dry Salt, for should the Brine be lost by Leakage, the Meat would grow rusty.

The Excellencies of this way above the former, (when there is no Repacking) are,

The Blood and Gravy is preserved, much time, troub'e and Salt saved, and the Meat will be little or no salter at a Year, than at a Months end.

To Salt Beef or Pork with the said Salt for Household Expence.

IF it be a Chine or single piece of Beef, if the same be moist, rub the Salt well on, but if the Meat be dry, dip it into, or moisten it with water, before the Salt be rubb'd on.

Otherwise

Otherwiſe make a Brine as above directed, ſo ſtrong as the Meat will ſwim in it, and there is no more to do but to keep the Meat ſunk in it.

This I know to have been the practiſe with Beef in his Majeſties Boyling-Houſe, when he was Prince of *Wales*, and 'tis at preſent the practiſe of ſome Inns of Court and Colledges; here it may be noted, that to keep Meat ſunk a day or two, will render it ſalt enough for preſent ſpending, yea and for long keeping, if after the Meat be taken out of the Brine, it be rubbed with Salt, and hung up in a warm Kitchin, ſee what is ſaid to this purpoſe in page 6, 11.

After the Brine hath been twice or thrice uſed, Boyl it over a brisk Fire and skum it, and after it is thorough Cold it will ſerve again.

I have cauſed this method of ſalting of Meat in Brine, to be tried by Mr. *John Bull* aforeſaid (and others) with *Portſea* Salt, on a Loyn and Spare-Rib of Pork, which were both rendred very red; and in Roaſting we found the Gravy kept in, and the very skin of the Loyn of Pork to Eat tender: He alſo ſunk a Gooſe in it 24 hours, which was well ſeaſoned, whereas according to the common method, there ſhould have been about half a pound of Butter, with Salt put into the Body to have ſeaſoned the Gooſe in Roaſting; he likes this way ſo well, that he much prefers it to the old Cuſtom of dry ſalting of Meat.

He hath alſo ſunk a Leg of Mutton a Night in Brine, that was afterwards Roaſted, and then it was well ſeaſoned to be Eat without Salt.

To Salt Bacon with refined Salt.

RUb Salt well on the Flitches, and put them in a Trough, laying the Riny ſide downwards, and ſometimes change the uppermoſt to lie loweſt, and ſo the reſt or middlemoſt, that the drippings of all may be Communicated. And thus continue for a Fortnights time, and then they muſt be Deeſed, or ſmoke-dryed for a Fortnights time longer, or divers Months, thoſe that drive a great Bacon Trade, raiſe great Piles with Salt between each Flitch, and much upon the uppermoſt, and Deeſe them no faſter from time to time than they can find vend at Market.

Martinmass Beef.

IT hath its Denomination from the common time that Country Farmers slaughter their Cattle, which they desire to Salt and dry in large Flitches or Pieces, in a Chimny or Deese, to spend at leasure, which is thus performed; let it be well rubb'd in, or dry salted for 8 or 10 days time, then it may be dried with Wood-smoaks, or in a Chimny-Stove with Saw-dust, or on Racks in a Fire or Deesing-roome.

The Farmers Boyl it, and eat it with Sallet or Boyled Herbs, or raw Sorrel with Apples and Bread well pounded together, with Vinegar put to it, others slice it and Fry it with Eggs, and if thorough dry, divers eat thin slices of it with Bread and Butter.

To Salt Beef and Neats Tongues Red.

Portsea-Island *yields a Red-Salt proper for this purpose, which hath been Sold at a Salt-Warehouse at* Puddle-Dock. *but without such Salt.*

LAy the Tongues and Beef in a Tray, and almost cover them with Salt till there be a Brine, then dissolve a small quantity of refined Petre-Salt in it; to six Tongues allow half an ounce or more, let the Tongues or Beef lie 12 hours on either side, and it gives it a Redness.

The Beef thus made Red, is either proper for drying, and is then called Hung-Beef, or for Baking to make Collar Beef, and the Tongues for drying, the manner of making Collar Beef, the Reader may meet with in page 11, of a Book called *the Compleat-Cooke*. And here it may not be improper to make a little Digression.

About

About Salt-Petre.

WHich of its self is a saltish Liquor derived from Earth, and we are informed in the *Philosophical Transaction*, N° 6. to this purpose; that in the *Moguls Dominions* chiefly about *Agra*, and the Villages heretofore Inhabited but now deserted, they derived it from three sorts of Earth, to wit, Yellow, White, and Black, out of which they obtain the best, as most free from common Salt, to this putting water, they tread it into a Pap, that the water may carry away a salt Liquor with it, which afterwards Christallizes into Salt-Petre, then they boyl or refine it twice or thrice over, as they desire it courser or purer, frequently scumming it, till it Christallizes into Salt-Petre, which they put into Earthen Pots, and set them abroad in clear weather, that what impurity remains may subside or fall to the bottom, and afterwards break the Pots, and expose it to the Sun to dry.

In *England*, tubs are filled with dark salt-Earth, got out of Cellars and the Floores of Pidgeon-Houses, *&c.* to which putting water it dreins away the saltish humour, into another Tub or Receptacle underneath standing under the dripping hole of the uppermost Tub.

The Liquor thus obtained, as also the Salt-Petre brought over by the *East-India Company*, resembling a dull reddish Sand, or course *Muscovado* Sugar, is boyled up to scum and refine the same, as many times as is thought necessary.

That which falls to the bottom of the Pan, is called (as I am informed) Petre-Salt, or the Salt of Salt-Petre, it resembles common Salt, hath little or no tast of Saltness, but is efficacious in turning what is salted therewith Red, as *Neats-Tongues*, *Hogs-Tongues*, *Martinmass* and *Collard-Beef*, yea and out of it a Spirit may be drawn as red as Blood, it is commonly sold in Salters-shops at *Billingsgate*, &c. at a reasonable rate, this sort with refining or hard boyling, makes Clods or Lumps and Flakes which are as big as *Loaf-Sugar* or *Allom*, which sort being much the dearer, is also used by some out of ignorance, (though not improperly) for the salting of

Neat

Neats Tongues, *&c.* as aforesaid, this sort is commonly sold by Drugsters under the name of Salt Petre refined, the expence of the Salt of Salt-Petre being but small, the Owners or Employers commonly give it the Workmen.

The other Liquor in the Pan at the same time boyled to a due Consistency, exposed to the cold will shoot into Christals, which they take off and put into flat Brass Pans, where it granulates of it self and makes Gunpowder for Ordinance.

And if the Liquor be refined to a greater height, it serves to make Powder after the same manner for Pistols and Fowling-Pieces.

The main difference betwixt them is, that Salt-Petre is Volatile and takes Fire, the other fixt and void of such quality.

We have Salt-Petre also from *Barbary*, but it is fouler and leaves a greater quantity of fixt Salt than that we have from the *East-Indies*.

I have heard it asserted in his Majesties late Council of Plantations, that enough and good Salt-Petre may be had from *Montserrat*, &c.

Salt-Petre Salt as to goodness hath no great Repute, yea common Salt mingled with Urine, Lime and Earth, cast up and kept in Banks for six Months or longer, much increaseth Salt-Petre; whence 'tis probable that our Sea-Muds mentioned in page 19, may yield good quantities of Salt-Petre.

In a Printed Letter of Mr. *Gabriel Plat*, to Mr. *Samuel Hartlib*, we read the Author asserting, that he knows by experience that Salt-Petre is the most rich Compost in the World to multiply Corn, and that he hath seen fifty pounds worth of Salt-Petre extracted out of a Vault at *Dowgate* not very spacious, which was formerly a House of Office, and not emptied, till the matter was throughly rotten. And seeing *Sal-Ammoniac* yields a good rate in *England*, namely about half a Crown a pound, and is much used by *Dyers*, *Tinmen*, *&c.* and may be made here of Salt, *&c.* I shall also digress a little about the same, and insert a Paper imparted by the Learned Chymist Mr. *Molt*, to Mr. *Dacres* a Drugster in little *Lumbard-street*, *viz.*

Sal-

Sal-Ammoniac.

THe name of Ammoniac is given to this Salt, from the Temple of *Jupiter*, Ἄμμων, or *Ammos*, situated in the midst of the Desarts of *Lybia*, because this Salt was formerly found sublimated upon the superficies of the burnt Sands of that Country.

The Urine of *Camels* that generally travelled that way in *Caravans*, in the *Pilgrimages* that were continually made to this Temple, was the first and principal Matter, and the acid Salt of the Air, which impregnated this Salt in the Night time, by its Union stopped the volatile Parts, which the heat of the Sun had otherwise dissipated; but having not this Salt of the Ancients, we are forced to use this fictitious Salt made thus.

Take 7 pound (or Pints of Urine,) one pound of common Salt, and two pounds of Wood-Soot, beat the Salt and Soot to Powder and put them into an Iron Pot, pour the Urine off them, boyl it to dryness, then beat the dry Mass and sublime it according to Art.

That I take to be meant of putting it into a Crucible, and evaporate or burn away the Moisture.

COOKERY of FLESH.

Many House-Keepers may meet with this Book, to whom possibly the following Receipts may not be unwelcome.

To pickle Cucumbers the way usual amongst Oyle-Men.

BUy a thousand Cucumbers of such we call long-*English* (not *French*) Seed, (these are about thrice as dear as the ordinary ones:) wash them very clean and lay them dreining in a Sieve, put them into a Pot or Vessel in lays, to wit

at

at the bottom, and between each lay diſtribute about ſix pennyworth of Dill and Fennil, then make a Brine of refined Salt, with five gallons of Beer or Rape-Vinegar, (for White-Wine is too corroding) ſo ſtrong that it will bear an Egg, in which diſſolve three ounces of Roach-Allom, then poure this pickle among the Cucumbers in the Pot or Veſſel aforeſaid, which cover cloſe or head up, and therein they may lie from three Weeks to ſix Weeks, then take the pickle out, boyl it on a brisk Fire and ſcum it, and put it in again to the Cucumbers hot which cover cloſe as before, and upon experience 'tis well known they will keep long and be green; if they be not green enough, boyl the pickle again, and put it to the Cucumbers as before.

Moſt excellent Cucumbers, large and ſoft Red-Herrings, ſuch as are deſcribed to be good in page 67, with Rape and Elder-Vinegar, are to be had at the Shop of Mr. *Joſeph Pierce*, Oyleman at the Sign of the *Swan* at *Holbourn-Bridge*.

To pickle Cucumbers otherwiſe, according to the Receipt of Mr. John Bull.

TAke ſix pennyworth of Dill and Fennel, an ounce of Coriander ſeed, two pennyworth of Cloves, two pennyworth of Mace, an ounce of white-Pepper, two ounces of Ginger, and about 4 gallons of Elder-Vinegar, (that is to ſay Beer or Rape-Vinegar, with the white-flowers of Elder ſteeped in it, to be had at about a Groat a gallon at Still ſhops:) a handfull of Wallnut Tree-leaves, to theſe put a gallon of pickle made with Salt and Water ſo ſtrong that it will bear an Egg, boyl all theſe together, and let it ſtand while it is cool, then put it into a Pot, with 1000 Cucumbers as aforeſaid well waſhed, and they will be good in few days; after a week or more the pickle ought to be taken out, boyled, ſcummed, and put in again.

To pickle Samphire.

The Iſle of VVight *yields plenty of it, and the* Port-Sea *Saltworks moſt excellent, as is mentioned in page* 32, *which Mr.* Alcorne *pickleth in the manner following.*

1. MAke ſuch a Liquor of Water, Elder-Vinegar, White-Wine and Salt as is pleaſing.

2. Let the *Samphire* be ſcalded in it, and when the Veſſel is taken off, cover it with a Cloath to keep the ſteam in for a quarter of an hour, and it will be tender, but if it be required hard, and not to be boyled again, cover it not at all.

3. Then take the *Samphire* out of the Liquor, and let both cool by themſelves, and afterwards put them up in a Veſſel cloſe covered to keep for uſe.

The Herb may be preſerved without ſcalding, but when it is to be uſed, it muſt be boyled.

To pickle Purſlayn.

TAke Purſlayn with their Stalkes, and boyl them tender in fair water, and lay them a drying or ſoaking, when done, put them into a Gally-pot, and make a Brine with Salt and Elder-Vinegar to put to them, ſo as to cover them, and keep the Pot cloſe ſtopt.

To make a Leg of Pork ſerve inſtead of a Weſtphalia Ham.

CUt it long like a Weſtphalia Ham, beat it very well with a Rowling-Pin, then put it into Brine (as before deſcribed page 122,) eight Days and Nights, then hang it up a Week a drying in a Stove, as is mentioned in page 110, and when to be uſed, Boyl it.

To Stew Beef Steaks.

TAke three pound of any good Beef, beat it well with a Rowling-Pin, and put it into a Tin-Stew-Pan, (of which thoſe that have double bottoms are durable,) with half a pint of Ale, and half a pint of Clarret, with a ſhred Onion, and ſet it at two hands diſtance over a gentle Fire, and when it is half ready, which may be in half an hour, put in a blade or two of Mace, a bunch of ſweet Hearbs, an Anchovie, and when ready, which may be in half an hour or more, take the Liquor out, and put into it a little freſh Butter, Nutmeg, and the juyce of a Lemmon ſqueezed on it, and ſerve it up.

To fry Tripes.

TAke a good fat Tripe, and ſowce it three days in a ſalt Brine as before deſcribed, then put it into a Frying-Pan of hot Beef-Suet to be ſcalded, when that's done, take out the Tripe and cut it into ſlices, then dip them into a Batter made of a penyworth of Flowr, and ſix yolks of Eggs beat up in a Porringer, afterwards Fry it, and ſerve it up as hot as you can.

To make Peaſe Pottage.

Going to VVeſtminſter *ſometimes, I meet with a diſh of ſuch as are very pleaſing, poſſibly as good may be made by ſome of the following Receipts.*

TAke a quarter of a peck of dry blew Peaſe, and boyl them with a piece of Bacon, and ſome dryed Mint; when they are half boyled, which may be in an hour throw in a quart of cold Water to break them, and if they be too thick, put in more; take a Cullender and ſtrein them through it, then take a hand-

ful

ful of Sorrel, a handful of green Spinnage, ſhred them a little, put in an Oynion with ſome Cloves ſtuck in it, a little Pepper, Salt, and Lemmon Peele ſhred, put all theſe into a Skillet, boyl alltogether quick up, which may be done in an hour more, and ſerve them to the Table with the Bacon in.

White Peaſe Pottage with Balls.

BOyl a quart of white-Peaſe mingled with Mint, in a little quantity of Water, till they are broke, and ſtrain them through a Cullender, leaving the husks behind, to which ſo ſtrained, put a quart of new Milk.

To make Balls to put into them.

Take half a pound of lean Veal, half a pound of Bacon, a little Beef-Suet, a few tops of Time and Winter-ſavoury, ſhred them alltogether very ſmall, grate in a Nutmeg, put in a raw Egg or two, work them well up, and boyl them by themſelves, in a little of their own or Beef-Broth, then take ſome thin ſlices of Bacon, Fry them, and put them into the Peaſe-Broth and Milk aboveſaid, with a little beaten Pepper, Cloves and Mace, a piece of Butter, two or three ſlices of Ginger, a little Lemmon-Peel, and three Anchovies ſhred ſmall, a *French*-Roul in ſlices, and boyl all up together, and if it prove too thick, put in more Milk, with two or three ſlices of Lemmon.

Peaſe Pottage, with a ſtrong Broth, according to Mr. John Bull's *way.*

TAke a ſhin of Beef, and a knuckle of Veal, boyl them in water ſufficient, with Cloves and Mace, 4 or 5 hours, till they are tender, then ſtrain that Liquor apart, giving the Meat to the Poor; and into it put 4 quarts of white-Peaſe, and boyl them therein, with ſweet Marjoram, Penny-Royal, and Spearmint a pennyworth of each, and when the Peaſe are

almost boyled, or rather have simmered an hour, put in a little minced Charvil mingled therein: Lastly, strain them, and serve them up.

A-La-mode (or Larded) Beef.

TAke six pound of Buttock-Beef, beat it well with a Rowling-Pin, and let it lie one Night in a Brine (made of Salt and water as before,) then slice the Beef and a pound of Bacon, put them into a Pot in Lays, with some Cloves, Mace, Cinamon, Nutmeg, and some sweet Herbs shred betwixt each Lay, (to wit,) Penny-Royal, Time, and Winter-savoury.) Lastly, put in a pint of Ale, and let the whole be Baked with the Wifes Bread. This will have a Jelly about it, and may be eat cold, or hot if stewed upon Embers.

Potted Beef to serve instead of Potted Venison or Fowle.

TAke six pounds of Buttock Beef, Parboyl it, also take six pounds of Beef-Suet, and put them one Night in pickle (as aforesaid,) next Morning beat them hard with a Rowling-Pin into a Mash, then take Penny-Royal, sweet Marjoram, Time, and Winter-Savoury, to the value of two pence, and Cloves, Mace, and white-Pepper, to the value of a penny each, mingle all these together, strew them on the Meat, and Bake it gently in an Oven; when it comes out, take it from its Gravy, and Pot it up with Butter on the top for keeping.

To Stew a Fillet of Veal.

CUt it into 20 or 30 slices, and lard them all with Bacon, on which, strew on a little minced Time, and Penny-Royal, put them into a Stew-Pan, with a blade or two of Mace, a pint of Oysters with the Liquor in them, two or three Anchovies, a Shellot, a pound of Sawsedges, and stew or simmer them

them over a gentle Fire, and when they are enough, which may be in an hours time, take them out and Diſh them, and put in a pound of freſh Butter, ſtrew on ſome Lemmon and ſerve them up.

To Roaſt a fillet of Veal.

BEfore it is laid down, ſtuff it with Balls made of ſome of the Knuckle, chopt very ſmall, and mingled with yolks of Eggs, ſweet-Herbs, and Spice beat all together; in the Roaſting throw on a little Floure, and when 'tis Roaſted enough, ſerve it up with ſlices of Lemmon, and Anchovie Sawce, to wit, ſimmer two Anchovies in a little White-Wine.

To make a Leg of Veal ſupply the want of a Shoulder.

TAke the brawn and cut it over the Knuckle, and ſcewer it up, take a pennyworth of Penny-Royal and Time, a pennyworth of Cinamon and Cloves, half a pound of Beef-Suet, a Pippin ſliced ſmall, chop all theſe together with four yolks of boyled Eggs, beat them all up together with a little fair-Water, and a pennyworth of White-Wine, and a little Flour to harden them, with a little bit of Nutmeg, make them into little Balls like Nutmegs, and make holes with your Knife in the Meat, and put or ſtuff them in, and when Roaſted, ſerve it up with Anchovie Sawce, and a little Lemmon.

Minced Beef to Eat with Spoons.

TAke two Ribs of Beef which may weigh about ſix pound, cut the Meat off the Bones, and chop it very ſmall, and put it into a Stew-Pan, with a pound of Beef-Suet minced ſmall, into which put the following Ingredients, namely two pennyworth of beaten Cloves and Mace, ſix corns of white-Pepper bruiſed, half a great Oynion minced very ſmall, a farthing-

ſarthingworth of Time, the like of Penny-Royal, both chopt very ſmall, half a pint of White-Wine, a pint of fair-Water, two Anchovies, let them ſimmer an hour over the Fire, and when done, ſqueeze in a Lemmon, and throw on a little grated Nutmeg.

A Pottage.

TAke a knuckle of Veal, a ſhin of Beef, 12 Cocks-heads waſhed in hot water, then ſcald them, ſplit their heads, pick off their Feathers, and take out their Eyes; moreover take 6 Gizards of Pullets, 2 pound of Sawſedges, a pint of Oyſters, a blade or two of Mace beaten, a pound of Bacon in little ſlices, an Onion, and a bunch of ſweet-Herbs both cut ſmall, a pint of White-Wine, and three quarts of fair-Water, put all in a Pot cloſe covered, ſimmering over the Fire above an hour, then take out the Beef to give to the Poor, the knuckle of Veal (which will turn to a Jelly), and the Sawſedges are to be put in the middle of the Diſh, with the Broth, into which put a penny-Rowl grated.

A Frigacy of Rabbets or Chickens.

TAke two Rabbets, quarter them, break all their Bones, clap them into a large Frying-Pan with a Cover, into which put a pint of White-Wine, a pint of fair-Water, half a pound of Bacon thin ſliced, two Anchovies, a ſmall bunch of ſweet-Herbs to the value of a farthing, chopt ſmall, two pennyworth of Capers, let all theſe ſimmer or gently Fry an hour, then take half a Porringer of the Broth, beat it up with the yolks of ſix boyled Eggs, put all in a Diſh, and ſqueeze on the juyce of a Lemmon,

Hung

Hung-Beef.

TAke six pound of the leanest Beef that is, beat it very well with a Rowling Pin, put it into Pickle or Brine, as described in page 122, eight days, take it out, and dry it very well with a course Cloth, sprinkle upon it a pennyworth of beaten Cloves and Mace, put a string through it, and hang it up three weeks in a Chimny over a Wood or Sawdust Fire, till it be thorough Dry, this is to be cut into very thin slices to cover Bread and Butter with, and so Eaten.

The Stove mentioned in page 110, is more proper for this Work than a Chimny.

To preserve a Breast of Veal in Pickle for three Months keeping in the Summer-time.

TAke as much Spring or Conduit Water as will cover it, let it Boyl, and then take it off and let it cool, take two quarts of that Water, a quart of Elder-Vinegar, a pint of White-Wine, some Lemmon Peel, a pennyworth of whole Cloves and Mace, a stick of Cinnamon, put all these together and boyl them, and when it is cold, put the Breast of Veal into an Earthen Pan, and cover it with this Liquor, into which put half a handful of Salt, cover it up close, and it will be fit for Eating in a Week, or for keeping three Months as aforesaid.

To preserve a Haunch of Venison that will not keep.

DIg a hole in the Garden or Celler, and put a Colewort leaf under it, and another above it, and cover it over with Earth for 24 hours time, and when you take it up, stuff it with Beef-Suet chopt small, mingled with a pennyworth of sweet-Hearbs, to wit, Penny-Royal and Time also chopt small, with a little bit of Nutmeg grated amongst them, and then it may be either Boyled or Roasted; if Boyled, it wants no Sawce, if Roasted, the Sawce following may be used, *viz.*

A penny Loaf grated and put into fair water, with a ſtick of Cinamon, a ſprig of Roſemary, a pennyworth of Red Wine, boyl all theſe up, put them in a Diſh, with a bit of ſweet-Butter, and a little Sugar, into which lay the Meat, and ſerve it up.

To make Bononia *Sawſedges.*

TAke 6 pound of Buttock-Beef, 6 pound of Pork (Belly-pieces,) pare it off the Ribs, let all this ſimmer or Par-boyl over a gentle Fire about an hour, then take three pound of Beef-Suet, three pennyworth of Cloves and Mace, a pennyworth of Nutmeg, as much Salt as will juſt ſeaſon them, of Sage and Penny-Royal a pennyworth, a half-pennyworth of Time, a pennyworth of beaten Cinamon, mingle the Meat and all this together, chop them ſmall, and put them into Ox or Cows-guts prepared, and dry or ſmoak them 3 or 4 Days in a Tin-Stove, ſuch as is mentioned in page 110, over a Sawduſt Fire.

To prepare the Ox-Guts.

WHen they come hot out of the Beaſts Belly, put them into fair-Water and Salt, cut them into ſeveral pieces and turn the inſide outwards with a Stick, for 3 or 4 days together waſhing them untill they are rendred white, then put in the Fleſh and tye them up.

Guts that are to to be Exported after they are waſhed, ought to be Salted and Pickled.

Sawſedges thus made are (without any other dreſſing) to be Eat cold with Muſtard. One, like a Hogs-Pudding that coſts but 3 pence, may ſerve as a Reliſhing-bit to 3 Perſons in a Tavern; I reckon 4 of them to contain more, and better Meat than a cold Neats-Tongue, and believe they will become common.

☞ Theſe with Sheeps, Hogs, Neats Tongues, Hams, Bloated-Fiſh, *&c.* are to be had of Mr. *John Bull*, mentioned in page 114, who keeps an Ale-Houſe near the *Fleet* on the Eaſt-ſide.

Of

Of Butter.

DIvers abuſes committed in the Packing and over-Salting the ſame to make it weigh heavy, occaſioned a Law to be made for redreſs in the 14 of *Car.* 2. *Chap.* 26. where we find the Complaints are of this Nature.

1. *Fraud committed in the Packing up bad and decayed Butter, with ſound and good, in Veſſels and cask unuſal, and called by wrong Names; a Kilderkin weighing from* 26 *to* 28 *pounds, a Firkin from* 10 *to* 14 *pounds, the Pots from* 7 *to* 9 *pounds.*

2. *And theſe irregularly weighed with Stones, Iron-Wedges, Bricks, and other unwarrantable Weights.*

3. *Hence the Commodity (whereof much is tranſported beyond the Seas) lies under a bad Repute, abroad and at home, becomes a great abuſe to his Majeſty in the Victualling of his Navy, Merchants in Victualling their Ships, and to Houſholders who buy the ſame for their Expence; For redreſs whereof it was Enacted, That after the firſt of* June, 1662.

1. *Every Kilderkin ſhall weigh* 112 l. *neat or above Averdupois, beſides the tare of the Cask.*

Every Firkin 56 *pound beſides the weight of the cask, and every Pot* 14 *pound beſides the weight of the Pot, all of good and Merchantable Butter.*

2. *That no Butter which is old or corrupt, ſhall be mixed or packed up into any Kilderkin, Firkin, or other Cask, Veſſel, or Pot, whatſoever with any Butter which is new and ſound, nor any Whey-Butter, ſhall be packed or mixed with any Butter that is made of Cream, but to be packt ſeparately, ſo that each cask or Pot of Butter, ſhall be of one ſort and goodneſs throughout.*

3. *No Butter to be ſalted with any great Salt, but all to be ſalted and ſavoured with ſmall Salt, nor ſhall more Salt be intermixed with it, than is needful for its preſervation, upon pain of forfeiture of the Butter falſe Packt, and ſix times the value of what ſhall be wanting in weight.*

4. *Cheeſmongers and others ſelling Butter, ſhall deliver the full quantity of Kilderkins, Firkins, Casks, and Pots, and the due quality thereof, and none ſhall Repack Butter for Sale, upon forfeiture of the double value for ſuch Repacking.*

5. *Farmers and others shall pack their Butter in sufficient and well seasoned Casks, which shall be marked with the first Letters of the Christian Names, and Sir Names of the Sellers, and the weight of the Butter, upon Penalty of forfeiting Ten-shillings for every hundred weight of Butter not so marked.*

6. *Potters shall mark their Pots, with their Names and the weight of the Pot, and set the first Letter of their Christian Name, and Sir Name, upon pain for every default* 12 *pence, and Farmers shall not sell Butter packed in other Pots, upon pain of two shillings for every default.*

One half of the Penalty to go to the Poor of the Parish, where the Offence is committed, and the other half to the Prosecutor; and all Suits on this Act to be commenced within four Months after the Sale of such Butter.

The frequent complaints our Fishermen make, of the badness of the Butter they carry with them, have occasioned these Recitals.

To preserve Butter fresh for long keeping.

MAke a Brine as before prescribed, and keep the Butter sunk in it.

About the beginning of *May*, I caused this to be put into Practise, and potted up many Lumps of Butter, bought fresh out of the Market, and they all kept sweet, fresh, good and well tasted till about *Michaelmas*; at which time the Brine eating through the Pot, they were spent; and more bought and packt up, with an intent to be kept till *May* next: The Reader may be informed of the truth of this Experiment, by divers credible Witnesses, at a *Plummers* on *Garlick-Hill*, where it was performed.

And here it is not amiss to intimate, that Jug-mettle is much more durable than other sorts.

Of Eggs.

I Am credibly informed that Eggs have been packt up in a barrel of Salt, that the same have kept good to *Jamaica*, and some time after the Ships arrival there, they using to rowl or turn the Cask, whereas others packt in Meal or Flour, quickly became musty.

Extraordinary Experiments in preserving Butchers Meat, Poultry and Fish without Salting.

1. A Leg of Mutton bought fresh out of the Market, hath been Buried about a quarter of a year in a heap of hard dry *Portsea*-Salt, and then taken out, proved very sweet, good, and fresh, and being boyled, made fresh Broth.

Of this Mr. *Pen*, at an *Alehouse* at the West-end of *Thames-Street*, and Mr. *Tisdell*, a Waterman that Plies there (and others,) can make full proof, as having been at the eating thereof.

2. They inform me also, that a whole fresh Salmon was buried a quarter of a year in a heap of Salt, and came out with good success.

3. Mr. *Alcorne* informed me, that he had caused the Gutts of a Turkey to be taken out, a Hair-bag with Salt to be put into the Body, and then the Fowl in its feathers to be Buried a quarter of a year, and then being taken out, stript and Roasted, proved tender, and as sweet, as one fresh from the Shop.

4. He further informed, that a Chine of Beef was Roasted, and put into a barrel of Salt, to carry to the *East-Indies*, to eat cold there, that the Ship stayed some weeks in the *Downs* before She put to Sea; that about the length of the *Canaries*, or somewhat short of it, it was eaten cold, and proved very good, and he doubts not, but it would have been the like at the *Indies*.

5. If a Brine be made of Salt and Water, it is outwardly of a cold Nature, as we have asserted in page 9, and is very proper to put bottles of Wine in, to keep them cool.

6. Forasmuch as old dry hard Salt, preserves what is buried in it, from Frost in the Winter-time, from Heat in the Summer-time, and from Air at all times, it cannot but be very proper to bury in it, bottles of *Florence* or other Wines, Cyder, Oyl, Ink, to keep them from Freezing in the Winter-time.

7. It cannot but be good to preserve divers sorts of Fruits and Roots, as Pyne-Apples, Oranges (wrapt up in Papers,) Hartichoaks, *&c.*

One *Thomas Marshall*, a Fruiterer, informed me, that he covered a Peck of Pease with their shells, and then covered the shells over with a heap of Bay-Salt, and they kept till the middle of *March*, and might have done much longer.

It were convenient to lay the Salt in a dry upper Room on a Mat, which for preserving of Hartichoaks, might be first strewed with Salt, then the Hartichoaks set in rows, with their tops downwards, then covered over with a Hair-Cloth, and then the Salt poured on.

8. The necessity of preserving Venison and other Flesh, in the heat of Summer, may occasion more Experiments, which I humbly beg may be imparted.

OF THE

Canary-Trade.

Before we part with the Reader, it may not be unfit to entertain him with a Glaſs of Wine, wherefore let ſomewhat about it enſue.

MAſters of Ships, and moſt Merchants, know it to be a Trade, at leaſt of late, very diſadvantageous to *England*, and that in theſe Reſpects.

1, That we pay double the price, we formerly did for it.

2. That we are mightily over ballanced in this Trade, the *Canaries* taking off more Commodities eſpecially Fiſh, from *Ireland*, and leſs from *England*, than they formerly did.

3. That by reaſon this Trade lies open, every Ship ſtrives to go firſt, and return firſt to Market; hence the Inhabitants knowing we are covetous of this kind of Wine, take the opportunity of enhancing upon us.

4. Which alſo gives them an opportunity of making and vending much bad Wine, made of Grapes, ſome Ripe, ſome Green, ſome Rotten, and this is that ſort which commonly arrives here before *Chriſtmas*, whereas the better ſort comes afterwards.

For proof whereof, I rather cite Authors that have conſidered it, than depend upon other Informations.

In a Quarto Book entituled *Trade-Reviv'd*, Printed in 1659, Page 21, *The Author deſires that the* Canary *Merchants may be called to teſtify, who it is but the* Jews *that have ſpoiled that Trade, and brought us to pay twenty pounds a Pipe for* Canaries, *in ready Money (ſilver ſcarce being liked, or able to purchaſe them at that rate, but* Spaniſh *Piſtols) when as heretofore they were bought by our Nation, trading thither, part for Commodities carried hence, part for time, and part Money at ten pounds* per *Pipe, to the great accommodation of all that traded into thoſe Iſlands, and the expence of our Manufactures.*

The

The Court of Aldermen, and the Merchants in their Petition and Remonſtrance to Oliver, *in* 1658, *Publiſhed by Mr.* Baker, *in* 1659, *repreſent the State of this* Trade *as followeth.*

1. That the *Canaries* being 1000 Miles from *Spain*, the chief of their dependance and Trade is with theſe Nations, (meaning *Great Britain* and *Ireland*) for their Wines, except a few Shipt to the *Weſt-Indies*.

2. That the *Engliſh* formerly bought theſe Wines there, at Ducats 28 *per* Pipe, that is 8 *l.* 8 *s.* which with Fraight, Cuſtom, and Charges, ſtood in 13 pounds Sterling, and now the firſt coſt is Ducats 68 *per* Pipe, that is 20 *l.* 8 *s.* The difference is 12 pounds Sterling in a Pipe, ſo that upon 10000 Pipes yearly Imported as a Medium, we pay dearer in the firſt Coſt, by one hundred and twenty thouſand pounds than we did, ſo that they who were formerly Poor, are now become Rich.

To which adding, that they have doubled their Cuſtoms, and impoſed a new Duty, ſince *Blake* was at St. *Cruz*, for Repairing and Maintaining their Caſtles and Fortifications; he makes our Dammage each Vintage a great deal worſe.

The Author of *Britania-Languens*, an Octavo Book of Trade, Printed in 1680, page 183, thus States this Trade.

Beſides to we have vaſt quantities of Imported Spaniſh *Wines, we alſo purchaſed with our Exported Commodities at the rate of* 10 l. per *Pipe, but now at about* 20 l. per *Pipe, and moſtly with Money, Bullion, and Bills of Exchange, ſo that 'tis computed that of latter years, it hath coſt* England *near two hundred thouſand pounds* per annum, *in Imported* Spaniſh *Wine, over and above the value of our Commodities Exported to the* Canaries, *from whence he ſaith are Imported.*

	l.
About 13000 Pipes yearly at 20 *l. per* Pipe —	260000
And our Commodities Exported do — amount to but about —	65000

Mr.

Mr. *James Boeve*, a Merchant commends this Book, as very useful and judicious, and this I mention to take an opportunity to return him thanks, (which I hereby do,) for a considerable number of Printed Papers, and Books about Trade, which he was pleased to bestow upon me; amongst which one was Published in 1641, by *Simon Smith*, then Agent for the *Royal Fishery*, entituled the *Herring-Buss* Trade, in which Book the Reader may find the *Dutch* Laws, thence cited in page 58, *&c.* and a judicious account of the charge of a Buss or Dogger, of the Nets, with the manner of their catching the Herrings.

Now the inconvenience of the *Canary* Trade aforesaid being notorious, it is fit to propound the Remedy, *viz.*

That it being but one place, to prevent our selves from undermining one another, which causeth them to enhance upon us there.

1. That the Trade thereof be restrained to one sole Company, and after others at present concerned have had some competent time for clearing their Debts, and concerns, none but those of the Company, to have any freedom of Trade thither.

2. That for as much as this Trade may be highly instrumental to promote the Fishery of *England* (as follows,) it be restrained to the *Royal Fishery Company*.

3. That such Company raise a sufficient Stock to carry on this Trade, which may be thousand pounds more or less, as shall be thought requisite.

4. That every one that pleaseth have liberty to bring into this Company a Stock, not exceeding above

5. That for every thousand pounds so put in for the *Canary* Trade, he be obliged to bring in one hundred pounds as a Stock to carry on the Fishery Trade.

Hence the Fishery will be supplied with Adventurers.

Hence if the Fishery be well encouraged, they may have Ships belonging to them, which may be employed all the year round thus.

1. In the Summer-time, they may be set out to *Greenland*, to be employed in the Whale-Fishery, which we have either quite lost, or most strangely decline in.

2. When

2. When they return, they may be gone to *Portugal*, *Spain*, and the *Streights*, with Herrings, North-Sea-Staple Cod, *&c.* and with such other Freight as they can get.

3. And from thence set forth to the *Canaries*, and return with Wine, when it is reduced to a reasonable rate.

Against which it will be Objected.

1. That it will displease the *Spaniards.*

2. That no Wine is so pleasing to us, as that of the *Canaries.*

3. That there they will hold up their Price, and cause the Company to lose the use of their Stock, and the Freight of their Ships.

To which 'tis answered.

To 1. That if we can be content with *Spanish* Wine, to wit, *Sherries*, *Malaga's*, *Alicant*, it will be all one to the *Spaniard*, but much advantage to us, in regard we shall have near twice the quantity, and in barter for Goods, as we now have from the *Canaries*, where but little of our Goods go off, neither do we argue for dissolving, but only reducing that Trade.

To 2. The Mountain Wines of *Spain* and *Portugal* are very good, Green, not over sweet or Luscious, and pleasing.

To 3. If we return, and take in a Lading in *Spain* and *Portugal*, where all Trade ought to be open and free, then that Objection is answered.

Now how advantagious to the Woollen Manufacture, it might be to have a free Trade with *Portugal*, for Wines, Oyle, Shoomack, *&c.* I find well asserted in a Printed Paper offered to the last long *Parliament*, whereof I think fit to insert a Coppy.

Whereas the Portugal *Trade is very advantageous to this Nation, because it doth annually consume a great quantity of our Manufactures, Fish,* &c. *and of late declines, because the Sugar and other Commodities of that Country, are either so faln in Price (here,) or grown so scarce there, as that the Merchants trading thither, cannot procure wherein to have Return, nor the People of that Country wherein to make satisfaction for the Goods they take, which hath occasioned the setting up of Fabricks of*

their

their own, and the Prohibitiag of our Commodities, to prevent the said Inconveniency, being that Country abounds with several sorts of good Wine, and is capable to afford great quantities thereof, which are in a manner totally Prohibited from being brought into this Kingdom, by the great Custom charged on them, of 16 l. 18 s. 11 d. per Ton, *as on* Spanish *Wine, whereas their use, nor goodness, doth not render them capable of paying more than the* French.

It is humbly conceived, it may be the Interest of this Nation, that by Act of Parliament, the Custom of the said Wines may be abated, and that seeing the Freight from Portugal, *is* 40 s. per Ton *more than from* France, *that the Custom may be less than what is charged on the* French *Wine, for the Reasons following.*

1. *The abating of the Customes, would certainly introduce the expence of the said Wine, and make them serve to supply the great want of Returns, at present experimented in that Trade, and consequently be a great means to increase the Comsumption of our Manufactory in that Country.*

2. *It would diminish the Importation of* French *Wines, which it is well known, are purchased with Monies, whereas it is probable, these will always be purchased with our Manufactory; and it may be convenient, to encourage the growth of Wine in* Portugal, *thereby to lessen the* French-Trade.

3. *Whereas the Prince of* Portugal *did about a year since, make a Law to prevent the wearing of Foreign Cloth, Gold, and Silver-Lace, and some other Commodities, and did also set up Fabricks of Bays, and Serges in that Country, because they have not Effects to ballance their Importation, which hath already proved of great prejudice to the said Trade, and may prove very fatal if pursued: It may be hoped, that by thus introducing the expence of their Commodities, and the taking of them in Exchange for our Manufactures, they may be brought to neglect the Observation of the said Law, and the said Fabricks, because the occasion of them will be thus taken away.*

4. *It may advance his Majesties Revenue, for the present extraordinary Custom is little less than a totall Prohibition, so that the said Wines yield at present very little to his Majesty, whereas if the Custom be abated, they may yield a considerable Sum, and whatsoever may be received less on the* French-*Wine, will be advanced on these, and probably more, because of their variety and goodness, and also because a great quantity of the Wines of that Country are not so strong as the* French.

Now seeing this Wine is not yet arrived, let us treat our Poor, Wet, Wearied Fisherman, (to whom I am beholding,) with somewhat to refresh him, resembling Burnt-Wine, wherefore a word.

Of Ale (or Cyder.)

INto a quart of either, put in a quartern of Brandy, a sprig of spear-Mint, and a quarter of an Orange, four Cloves, then Boyl it, Scum it, and Burn it if you please, as you do Wine, and put to it a pennyworth of Sugar.

Ale and Brandy may be also used to make a Posset.

A SHORT NARRATIVE OF THE SUFFERINGS And Case of the Salt-Workers OF *Sheilds, Northumberland, Durham, &c.*

Taken from their Petitions and Papers, presented in *Parliament*,

The Occasion of their Increase.

1. IN *Anno* 1627, and 1628, in time of Wars with *Spain* and *France*, Salt was so scarce, it was Sold at 8 *s.* 9 *s.* 10 *s.* a Bushel; and in 1629, upon conclusion of a Peace between *England* and *France*, the *French-King* put out an Edict that none should be Exported, on Confiscation of Goods, and loss of Life.

2. Hence about the same time, Peace being also concluded with *Spain*, about 200 or 300 Sail of Ships were sent to *Spain* for Salt, where that King making an advantage of our Necessities, laid an Embargo on the Ships, which being taken off, there followed so great an Imposition on their Salt, that it came to double the price of Salt then and there made, to the Merchants great loss.

3. This occasioned the Lord Mayor, Aldermen, and Company of Fishmongers of *London*, and divers other Corporations, in *Anno* 1630, to Petition his Majesty *Charles* the first of blessed Memory, not only to Prohibit the Exportation of Salt from *Newcastle*, but likewise to encourage the making of great quantities there, and in parts adjacent, by rendring the Saltworkers a Corporation, both which were granted.

Their Progress and Discouragements.

WHereupon they Erected many Wharfs, Boyling-Houses, and Pans in those Parts, whereof those at *South-Sheilds*, being Built on spare neglected Church-Lands, the *Dean* and *Chapter* of *Durham* compelled them to take Leases, and pay an annual Rent for the same.

In *Anno* 1644, the *Scots* taking *Newcastle*, dispossest divers of the Saltworkers of their Salt-Pans, by reason of their Loyalty to his Majesty, and pulled down, and destroyed many others, pretending them to belong to *Popish* and Malignant Owners, on purpose to advance their own Manufacture of Salt.

In 1646, the *Scots* removing out of *England*, the Saltworkers made hard shift, to restore part of their Ruined Works, and Pans, but to their great Loss. For in 1648, the usurped Powers exposed to Sale all Lands belonging to *Bishops*, *Deans*, and *Chapters*, also the Salt-Houses and Pans of the Saltworkers, that lived at *South-Sheilds* being Built upon Church-Lands, they were enforced to purchase the same of the said pretended Powers, or of others who bought them over their heads, at a very dear Rate.

Moreover in 1648, Sir *Arthur Hasterig*, comming to Command at *Newcastle*, (to add to their Miseries,) laid on an arbitrary Imposition of 4*s.* a Wey on Salt, and as much on a Chaldron of Coals, for the use of the Garrison as he pretended.

From 1644, to *June* 1647, the *Scotch* undermined the *Newcastle*-Saltworkers in their Trade, by an unequal Imposition in the Excise, being a half-penny a Gallon, as well on *English* as *Scotch*, whereas the Duty on *Scotch* (being Foreign,) ought to have

have been as other Foreign Salt, a penny a Gallon, in regard Coals, Labour, and Diet in *Scotland*, (especially during the time of our Troubles, and heavy Taxes;) were cheaper by one half there, than here.

Besides, the *Scots* for four years together did not pay Excise, till they had brought their Salt into the Market, and Sold the same; whereas the *English-Maker* paid Excise at the Pans, besides the Disparity of Measure between *Sheilds* and *London*, and the wast by the way, was exceeding injurous to the *English* Traders, for 20 wey at *Sheilds*, did not upon delivery make out above 12 wey at *London*, and sometimes less. Whereas the *Scots* not paying till a Sale in the Market, paid for no more than was really made out.

These Reasons being offered to *Parliament*, they took off all Excise from *English*-Salt, to Commence from 24 *June*, 1647, and left but a half-penny a Gallon on *Scotch*, as before.

This notwithstanding proved no Redress, to the long-suffering injured Saltworkers, who upon experience still finding themselves undermined in their Trade, by the *Scotch*-Salt, obtained an Act of the *Rump-Parliament*, of 12*th.* of *June*, 1649. Declaring all Salt not made in *England*, should be understood as Foreign-Salt Imported, and pay Excise accordingly.

VVhereupon, immediately a Knot of *English* Traders in *Scottish*-Salt, that got great Gains by the Ruin of our own Manufacture, (to uphold their filthy Lucre,) make application to *Parliament*, to bring on an Excise of a half-penny a Gallon on *English*-Salt, alledging the necessities of the Common-VVealth, the considerable Revenue that would arise thereby, that *Scotch*-Salt was better than our own; that we had a considerable Trade thither, which would be lost, unless we took Returns in *Scotch*-Salt, which would turn to the Merchants great Dammage, unless the Duties between both were well moderated. And accordingly the *Rump-Parliament*, from *Midsummer* 1649, laid on an half-penny a Gallon on *English* Salt, and one penny half-penny a Gallon on *Scottish*, which continued to 1654, during which time the *Scottish*-Salt undermined the *English*, notwithstanding it paid 33*s.* 4*d.* a wey, (of 40 Bushels of 10 Gallons each,) more than the *English*, by which means above 160 Pans or VVorks became wast and ruinous, which if restored, would be able to make from 16 to 18 or 20 thousand

wey

wey of Salt yearly, which they believe is as much as ever was Imported into the Nation in one year, by *Scots* or others.

The *Rump-Parliament* being Dissolved by *Oliver Cromwell*, the Saltworkers were in hopes to get some relief by that Change, but met with the quite contrary, for the said *Oliver* and his Council, without staying for the Authority of a pretended Assembly of *Parliament*, did ordain to Unite *Scotland* into one Common Wealth with *England*; and that all *Scotch* Goods for the future, should pass as free, and with the like priviledge, as Goods pass from *Port* to *Port* in *England*.

Whence the Saltworkers fell into despair, and no less than 80 Pans more and upwards were Ruined then, reckoning it impossible to have vent for a great part of the Salt they commonly made, or could have made.

The Saltworkers by his Majesties happy Restauration, were in great hopes to find Encouragement in the said Manufacture of Salt, but have met with the quite contrary in divers Respects.

1. THose of *South-Sheilds*, were inforced to pay considerable Fines, and to take Leases of the Pans, Grounds, Staiths, and Houses, of the Church, to whom the same were Restored.

2. The Saltworkers of *Northumberland, Durham*, &c. *Cheshire, and Lancaster*, finding the vent of their Salt, in those *Northern*-Countries, on the Coasts and in *Ireland* much obstructed, obtained from the *Parliament* in 1662, as a compensation of their Sufferings, a high Duty of Customs to be imposed on *Scottish*-Salt, to wit, a halfpenny a Gallon, that is, 13*s.* 4*d.* a wey, which yet continues, (whereas *French* pays but 1*s.* and *Spanish* 1*s.* 4*d.*) But the intent of *Parliament* in discouraging the said *Scotch*-Salt is frustrate, by reason a Farm of the Customs of all Foreign Salt Imported hath ever since 1662 been Let, and Expires not till *Michaelmas*, 1688. The which Farm hath been extreamly prejudicial to the Saltworkers, the Nation, and his Majesties Revenue.

1. *To*

1. *To the Saltworkers.*

THey are informed that by virtue of the ſpecious pretences aforeſaid, that *Scotch*-Salt is better than *Engliſh*; that unleſs moderated in its Cuſtoms, it would breed an enmity between *England* and *Scotland*, and prevent all Trade thither, and Returns thence, the farmer hath obtained a conſiderable Defalcation of 800*l. per annum*, as granted to admit *Scotch*-Salt at half Duty of Cuſtoms, (as they beleive or as bad,) the ſame as they are informed being Subfarmed to the chief Traders in *Scotch*-Salt, and to *Scotch-Men*.

By which means, the Condition of the Saltworkers is much worſe than formerly, albeit, as aforeſaid, when *Scotch*-Salt paid 33 *s.* 4 *d.* a wey more than *Engliſh*, they were undermined in their Trade, and forced to deſert 160 Pans.

2. *To the Nation.*

BY reaſon the ſaid Works did Employ many thouſands of poor People and Families, who depend on that Manufacture; who are now reduced to Beggary, and incapacitated to pay Taxes towards the Maintenance of a neceſſary War, ſhould ſuch happen: The Salt being reduced to ſuch low Rates, that there being nothing to be got; Adventurers give over the Manufacture, having vaſt quantities on their hands, without any Proſpect of Sale thereof, unleſs to great Detriment, and even when their Condition was at the beſt, they gave over Working five Months in the year, for want of vend, at ſo low a price as 8 *d.* a Buſhel.

3. *To his Majeſties Revenue.*

IN regard the Farm-Rent, (if paid into his Majeſties Exchequer,) being but 1000*l. per annum*, (as ſome have aſſerted) is inconſiderable, to be put in ballance with a national injury; and ſuch advantage to his Majeſties Revenue, as they have long ſollicited to obtain, as a recompence for the loſs of the Cuſtoms on Foreign.

For

For Remedy they humbly Crave.

1. THat the said Farm may be vacated if possible, by his Majesties Interest, or Let, and Subfarmed to them, if not, that for the future, all Customs on *Scotch*-Salt, may be Leavied by Sworn Custom-House Officers and others.

2. That our Fishermen in the *North* and *Irish*-Seas, and at *Iceland*, be obliged to Lade and take in all their Salt, (to be spent in Fishing) in the Ports of *England*, before they put to Sea.

As to the Salt of Cheshire, Stafford, *and* Worcestershire.

THe increase thereof is so great, by reason of many new-Brine-Springs, discovered from time to time without the cheif Salt-Towns, Seawards, and by the Discouragements put upon their Sales, by reason of *Scotch*-Salt Imported into *Ireland*, and *French*-Salt Imported into the Western parts of *England*, but more especially in great quantities into *Ireland*, in return of that great Trade they have with *France*, for their Flesh, *&c.* since the Act for Prohibiting *Irish-Cattle* first past, the cheif use thereof being to Salt the Beef they Ship off, which is very much, to wit, the Worthy *John Ball*, Esquire, Justice of Peace, affirms, that his Majesty was informed by an *Irish* Earl, that no less than 48 thousand barrels of *Irish* Beef, weighing 2 *C.* and a half weight each, had in a years time been Landed at *Dunkirk* only, from such like causes it comes to pass, that many thousands of poor Labouring Families are undone, and the Proprietors of Works and Pits reduced also to a wretched Condition. A Share that formerly yielded 60 *l.* a year, Rent or Benefit, not now rendring above 6 *l.* Salt being reduced to 6 *d.* a Bushel at *Northwich*, the most eminent Salt-Town in *Cheshire*, whereas of the Brine there and in other places of the County, vast quantities of Salt may be made, far excelling either *Scotch* or *French*, in goodness.

Lastly,

Lastly, As a most effectual remedy to these Agreivances, I might name Honourable, or Eminent Persons of *Cheshire*, *Newcastle*, and *Hants*, who have long by themselves or Agents sollicited to bring on a small Excise, (or Duty payable on Salt at the Works.) on Native-Salt, on Condition to discourage Foreign, by a high duty of Customs, as an ample Compensation to his Majesty for the loss thereof, and for the advancement of the Fishery.

Against such a Duty, the common Objections raised by the Parliament-Men of Cornwall, *and* Devonshire, *&c. are.*

OBJECTION, 1.

That *English*-Salt will not cure their Pilchards, which is a considerable Fishery.

ANSWER,

The design of this Book, is to prove the Excellency of our own Salt above any other, wherefore it ought not to be disparaged without due Tryal, (which we have not heard to be hitherto attempted,) wherein they may have the help of some able Fishermen, that have much Experience in Salting (or curing) of Fish: Moreover the Fishmongers affirm, there cannot want good Success, in regard Herrings require a better Salt than Pilchards, and the former, to wit, Herrings, cannot well be cured with Bay-Salt, (much worse than *English* refined,) and the latter (*viz.* Pilchards) may.

OBJECTION, 2.

That they cannot otherwise dispose of their lean, shotten, or sick Pilchards, but in Barter for *French* (or Bay) Salt, which serves most excellently for their *Newfoundland* Fishery of Poor-Jack.

ANSWER,

1. The Fishmongers say, there ought be be a Law made, to restrain the catching of Pilchards, (as in *Holland* there is of Herrings; see page 107) after such time as the Shoal begins to be lean, shotten, or sick, as a good medium to preserve, and increase the Breed.

2. That the shotten Pilchards, (as well as Herrings,) cured with a refined Salt, may probably be vended at other Markets, with no less, (if not greater) advantage.

3. The total Prohibition of *French*-Salt is not aimed at, but the Discouraging the expence of it, at home; it may be still had in *France*, and carried to *Newfoundland* without Dammage, (notwithstanding the Proposal,) unless Landed in *England*.

What if you lose somewhat in this (inconsiderable) unfit Fishery, you may undertake better elsewhere, see page 102, 107, besides it were better you shou'd loose something, than the Trade of Salt-making be Ruin'd: Many Brine Springs run at wast, and many thousands of poor Families want Employment, for about half their time every year.

5. The *Newfoundland*-Fishery, as you see in page 93, wants a Revenue to support it, and may be had out of Salt, which if you longer oppose, perchance you will embrace a Shadow, and lose a Substance.

6. In the late times of Usurpation, the Excise of Salt was thus established.

All Salt made, or to be made within *England*, *Wales*, or Town of *Berwick*, which is, or shall be Shipped, or conveyed by Water, to be paid by the first Buyer of such Salt, at the place of Landing, or Unloading thereof, on every Gallon, a halfpenny —	$\frac{1}{2}d.$
All other Salt therein made, and not Shipt, or conveyed by Water, to be paid by the first Buyer thereof upon the first delivery, the like —— ——	$\frac{1}{2}d.$
All Salt upon Salt, that is made of Salt within *England*, *Wales*, or Town of *Berwick*, to be paid by the Maker thereof, upon every Gallon, a farthing-	$\frac{1}{4}d.$
All Foreign Salt Imported, upon every Gallon to be paid by the first Buyer, three-half-pence —— ——	$1\frac{1}{2}.$

These

These Impositions were first Farmed,
To Sir *Martin Nowel*, at——————15
Then at——————20 } thousand pounds
Afterwards at——————24 } *per annum*.
Lastly, To *Richard Best*, Esq; at——26

Which ceased after his Majesties happy Restauration.

Now how by the ayd of such a Revenue, the Manufactures of Tin, *&c.* might be advanced, and the Fishery of the Nation Encouraged, and Established, I have mentioned in my Plea for the Importation of *Irish*-Cattle, Printed in 1680, the Impression of which (Book) being Sold and gone, I crave leave to Reprint part of that Discourse here, as I hope to do other parts of it, in a Treatise of Fishery hereafter, *viz.* in page 12. I thus argue.

Concerning TIN.

I have heard divers Merchants of late years affirm, they could not get the Interest of their Principal by it; and when the Debate about Tin-Farthings happened, the *Pewterers* affirmed, that there was 22000 *l.* worth of Tin at *Smyrna* remaining, that had been some years in the hands of one Mr. *Pythorne*, a Factor there, that he could not sell to any advantage; and it's well known that Tin was never so cheap at home, nor more of it lying on our hands than now, albeit his Majesty ever since 1666. hath received no benefit by his Prerogative of præemption, nor is like to have any for the future; whereas in former times it was farmed at 12000 *l. per annum* Rent.

The Case being thus, give me leave to make a Digression about the improvement of our Native Commodities.

Endeavours have been on foot to restore this fall'n branch of the Revenue by Farming it of his Majesty, and coming to a Composition with the Miners of *Cornwal* to take off all the Tin the Mines yield, or at least 1200 Tons *per annum*, but there were two Rubs in the way; the one was, the Convocation could not well come to such an Agreement, till an Act of Parliament was obtained to bind all particular Miners to stand to such contracts as the said Convocation should make: The other was, the Farmers would not undertake such Bargain without

Covenanting with his Majesty, to supply *England*, *Ireland*, and the Plantations with Tin Farthings, a pound weight of them to be cut into 16 Pence, that by the profit of these Farthings the Farmers might be enabled to pay their Rent.

This Design was opposed by the Mint, as an abuse to be put upon the Nation; many arguments were then urged against Tin Farthings, whereof I shall enumerate some few; as.

1. That a Metal might be made whiter and harder than Tin, of Litharge of Lead, (that is refined Lead, which proves extraordinary hard and white,) incorporated with *Spelter*, and some Poysonous Ingredients, *Arsenick*, *Regulus* of *Antimony*, &c.

2. That such Metal, when worn, would not yield above wo Pence a Pound, or little more, and no *Pewterer* durst use it, as being contrary to the Laws or Orders of their Company.

3. That Tin Farthings might be Coyned with a Hammer, cast in a Mold, squeezed in a Vice, and be counterfeited by any *Pewterer*, *Letter-Founder*, *Tinker*, *Plummer*, *Smith*, *Glasier*, *Tinman*, *Watchmaker*, &c.

4. Hence a *Query* was put to the Farmers, whether they would change all that were brought to them or not, good or bad, either made by themselves or others? And if so, who should allow the Country and City Brewers their Charges, in sending them up to *London* in Drays and Wagons, with Tellers?

5. They refusing, it was inferred, that if Tin Farthings were Established, His Majesty must receive His Revenue of Excise (and the Duke of *York* his Postage) in Tin Farthings, in regard a Brewer cannot avoid the taking of much Money in Tin Farthings at home of Tub Women and Firkin-Men, and abroad of the Ale-House-keepers that are his Customers.

These Arguments ruined that wretched Design, and I pray let it sleep in its Rubbish.

Afterwards one Mr. *Vane* Deceased, proposed a Design to make Tin the *fundus* of a Bank; to be managed for his Majesty's advantage by Commissioners that were able Merchants, that could pay the Miners by Contract for the Tin quarterly, and be reimbursed by Sales, when it should bear a price, or by others that would have credit in the said Bank: And His Majesty to promote the same, bought up 60000 *l.* of Tin when it was cheap, to wit, at 3 *l.* 8 *s.* 6 *d.* the Hundred weight, of which this was the event.

The

The Plot breaking out, and the Parliament not sitting, such Contract could not be made with the Miners; and the said Tin after it had with Warehouse room, and Interest of Stock, cost about 3 *l.* 16 *s.* the Hundred weight, was sold at the *African-House* at about 3 *l.* the Hundred weight, or little more; and those that bought it so, Shipp'd off most of it to *Holland*, and are great Losers by the bargain. The cause whereof is this:

The *East-Indies* abounds with Tin, which the *Dutch* buy there at about 5 *d.* a Pound, and bring it home for Ballast Freight free; and they have brought home so much in former years, as to bring down the price of ours. See a Book of the *East-India* Trade, Printed in 1667. where in page 9 you have this passage.:

As for Tin there is vast quantities in some parts of *India*, the *Dutch* during the time of the late Præemption of Tin, having brought home in two years 4 or 500 Tons: And it might be more advantagious to the *English* Company, not only to Transport Tin from one part of *India* to another, rather than to send it from *England*; but also to bring Tin from *India* to *England*, for Ballast of their Ships that come with Pepper from *Bantam*, did they not prefer the Kingdoms Interest before their private Profit.

The *Dutch* in *August* 1678, brought home, as a Letter from *Holland* mentions, above 150 Tons, which is said to be 5 *s.* a Hundred weight better than ours; and at first sold it at 3 *l.* 5 *s.* the Hundred weight, then fell to 3 *l.* then to 2 *l.* 15 *s.* and ours at that time would not sell for above 2 *l.* 10 *s.*

The case being thus, to apply a Remedy, I humbly addressed my self to the Honourable the *Members of Parliament* that served for the Counties of *Devon* and *Cornwal*; and Propounded,

That whereas we now in *England* make Salt the best yet known in the World, and are notwithastnding much oppressed by Foreign Salt; to Redress which, the Saltworkers have for many years endeavoured to bring on a small Excise on our own, to recompence His Majesty for the loss of the Customs of Foreign, to be kept out by a high Duty.

1. That they would be pleased no longer to oppose such Excise, upon pretence that our *English* Salt would not cure their Pilchards.

Pro-

Promiſing my Treatiſe of Salt (in a good forwardneſs for the Preſs,) in which ſhould be handled the ſeveral ways of making of Salt in *England* and other Countries, and ſetting forth the Excellency and manner of uſing our own in curing both Fleſh and Fiſh, for the longeſt of Voyages through the hotteſt Climates.

2. That they would vouchſafe to make uſe of ſuch opportunity to remove all burthens upon Tin, as well Sealing Duty of 4 *s.* a Hundred weight, which may come to 5000 *l. per annum* (except a competent Recompence to the Officers for ſealing ſuch as is free from Iron and Droſs, according to Conſtitution;) as alſo exporting Duty of 7 *s.* 4 *d.* a Hundred, which may come to 7000 *l.* a year, or more.

3. That then a Farm of all the Tin the Mines produce, to be let to the *Turky* and *Pewterer*'s Company; the one will ſo regulate the Price abroad, and the other at home, that we ſhall not be undermined by the *Dutch*.

This done, the ſaid Companies may erect a ſafe Bank, and not be dammaged, albeit they have Tin on their hands to a vaſt quantity and value. The advantages of Banks are great; whereof I ſhall mention but one; It enables the *Hollanders* to Trade with a dead Stock: to wit, when a Laden Ship arrives, the Goods are appraiſed, depoſited in the Bankers Ware-houſes, and Credit given at home or in Foreign parts, for about three quarters of their value; which is an incredible advantage in Trade.

I further humbly repreſented to them, that in the Uſurper's time ſuch an Exciſe as aforeſaid in page 154 brought in 26000 *l. per annum*, when Fiſhery Salt was excepted, and paid nothing, the which was obſerved to be a notable back door and a Cloak to many fallacious pretences, whereas laying the duty univerſal, the revenue raiſed by Fiſhery Salt, being employed for the advantage of a Fiſhery Trade, ſhall much more advance the deſign, than the payment of ſuch duty can hinder it, eſpecially ſeeing our Neighbours cannot be furniſht with Salt for that purpoſe ſo good and cheap as we by 12 or 15 *per Cent*; And in caſe the ſame be employed in the *Royal Fiſhery Company* in *London*, out-parts may complain their Fiſheries are diſcouraged; to which may be replied, that at *London* a duty is paid upon Ballaſt, but not the like in the out-Ports or moſt of them, where a

re-

revenue may be levied on Ballast to promote their respective Fisheries; And if such duty be laid universal, and well managed, it may produce 38000 or 40000 *l.* a year. And such a stock as that Employed to encourage our Manufactures, shall enrich the Nation much above a Million a year; I offer how, and most humbly move you to promote:

1. In setting up a Fishery Company, to have 10000 *l.* a year given them to Build Ships and Vessels, to encourage Adventurers to undertake the Fishery Trade, and the making of Twine, Nets, Canvas, and Cordage, at *Clerkenwell* Work-house, not only for their own use, but also for his Majesties store, as in the latter part of that Treatise was propounded. And if they be rendred a Council of Trade, (for which reasons were then given, why they are or may be a most proper constitution,) they will go far in earning such benevolence, and doubtless give such advice as followed shall redress the aggreivances of the Nation about Trade and Manufactures, to which I subjoyn; that without considerable Encouragements the Fishery of *England* will be inconsiderable, and that it ought to be undertaken in the *North* and *Irish-Seas* for Foreign vend, but of this at large, God-willing in another Treatise, at present see page 67, 107.

To which may be added, that Doggers may be employed, from *Michaelmas* to *Lady day* in a Winter Fishery to supply *London* with fresh and barreld Cod, perchance with advantage (though hitherto nothing but loss and that considerable hath occurred;) whereas on the contrary in Summer a loss ensues either by a North-Sea or *Iceland* Fishery, or the Vessels must be laid up, and the Men (though not the Companies Boys) discharged, and not to be had when the Winter Fishery is to be renewed.

2. There is a new Art of preparing, whitening, and dressing both of Hemp and Flax, (afterwards more particularly described in my said Plea,) that shall render it of a silver Colour, so fine that of one pound of it, a thred may be made 20 Miles long, and in value to 50 *s.* or 3 *l.* the pound weight Hence we want no Foreign Linnen nor Canvas, which may be barr'd out by a high duty.

Of the refuse or Tow thereof, of Raggs, Old Fishery Nets and Sayls, may be made Paper; whereof we spend in *England* in Writing and Printing, about 1000 Reams a day, or to the value of 120000 *l. per annum.* Good Paper is made in *Germany* and

and *Holland*; and the Art thereof is attained in *England*; but to encourage the ſame here, there wants a higher duty on Foreign Paper; and a Company with a good ſtock to undertake the ſame; the which might be the Stationers Company, with other Adventurers; to whom for encouragement might be allowed the uſe of 5000 *l. per annum Gratis*; to be taken out in Stationary Wares for the ſupply of all his Majeſties Offices. This doth not ſuppoſe that any that are not of the Company are reſtrained from undertaking it, on their own private Adventures.

3. By the like encouragement, the Upholſterers with others might be induced to undertake the Manufacture of Tapiſtry hangings, the benefit of gaining ſuch Manufacture is great, *viz.*

1. It will ſave an expence of Foreign Wool, and beget an expence of our own, to the value of One hundred thouſand pounds *per annum*, now Imported in Tapeſtry hangings.

2. It will cauſe our Cloaths to go off in *Turkey* in Barter, to procure raw Silk to work up with the ſaid Hangings.

3. It will in the Ballance of Trade ſave the value of ſuch Hangings yearly to the Nation, and in time become a Staple Commodity to Ship off, in regard we can have Wool, Silk, and Proviſions, much cheaper here than in *Flanders* and *Brabant*, the ſole Provinces where this Manufacture was formerly made, the skill whereof is now well attained in *England*; but Encouragement in its Infancy, by keeping out Foreign, and a ſtock to carry it on, is wanting.

4. It will employ many thouſands of poor People in Carding, Combing, and Spinning, beſides Dyers, Weavers, Worſted-workers, Drawers, and Deſigners. See the excellent Propoſal in Print of Mr. *Francis Poyntz*, His Majeſties Tapiſtry-maker.

Laſtly, If there be yet a Surplus, the Revenue of the Mint craves it; the ſaid Revenue was much too ſhort for Coyning any conſiderable quantity of our Moneys into ſmaller pieces than Shillings, even before the Prohibition of *French*-Wines, (which paid 10 *s.* a Ton Coynage duty,) and became a notable Abridgment of ſuch Revenue, namely, 6000 *l.* a year. Moreover to Coyn more Moneys ſmall, is the beſt way to accommodate the People, and prevent Exportation.

To

To which may be added that the Mint Act being but temporary, it together with 10 *s.* a Ton Coynage duty on Wines, *&c.* and 20 ſhillings on Brandy, ceaſed upon Diſſolving the *Parliament* about *November*, 1680. ſo that when 'tis reſtored, I hope there will be a caution in it; to reſtore Copper Farthings much wanted, as likewiſe ſmall ſilver-Moneys.

To this Diſcourſe of our Manufactures (to which many more may be added, and conſequently the Poor employed in them,) I further intimate, that the moſt renowned Sir *William Petty* hath writ an Elaborate Treatiſe, moſt worthy publick View, intituled *Political Arithmetick*, in which he aſſerts, we may employ the Poor, and gain two Millions a year more than we do, by the People we have, without uſing any of the Mediums here propounded.

To which might be ſubjoyned, that we have either almoſt or quite loſt many Manufactures upon the ceaſing of the Exciſe, as Iron, Battery, Braſs, Cordage, *&c.* And that divers other Manufactures might be gained by a higher duty of Cuſtoms on Foreign, whereby the poor might be Employed, the Exportation of Coyn and an overballance of Trade prevented, a Diſcourſe whereof might be a large, uſeful, but uneaſie task.

Laſtly, It is to be hoped, that none of his Majeſties Officers that have long enjoyed profitable Employments, will for the future hinder theſe meaſures without propounding better; and now Courteous Reader, to thy Patience and my own pains I willingly put an

END.

LAUS DEO.

An Advertiſement about Planting the Iſle of Tabago.

TO the Courteous Capt. *John Poyntz*, I am beholding for the information about the *Iſle* of *May* Salt, page 17, as alſo for the following Advertiſement.

He ſaith, the *Iſle* of *Tabago* did belong to the *Crown*, and that his Majeſty parted therewith to the Duke of *Courland* in Lieu of ſome Caſtles in *Guinea*.

That it is Situated *South* and by *West* from the *Barbados*, at about 40 Leagues distance, in the Latitude of 11 ½ degrees being about 100 Miles Circumference, and contains 200 thousand Acres of Ground.

That 'tis better Situated than the *Barbados*, not infested with *Hurricanes*; and is a most proper *Island* for the growing of *Cacoa*, *Tobacco* as good as the best *Spanish*; that it also yields *Sugar-Canes*, *Cotton*, *Ginger*, *Indico*, *Anotto*, *Sassafras*, *Vanillos*, *Auras*, and *China-Roots*, *Rhubarb*, and several other Drugs; *Balsam*, *Fustick*, *Lignum-Vitæ*, *yellow-Saunders*, *white-Wood*, *Cedar*, *Mastick*, in great plenty and large.

That it is stored with *Wild-Hogs*, *Piccaries*, *Armadillos*, and several other sorts of *Flesh*, *Fish*, and *Fowl*, with incredible plenty of *Tortois*.

That within a Mile of it Eastward, there is a little *Island* called little *Tabago*, containing about 1300 Acres of Land being well stored with *Goats* and *Deer*.

That on the South East side of *Tabago* (the greater) there is an excellent harbour which will be a free Port.

That this *Island* is to be Planted under his Majesties Protection, the *English* to hold in it 120 thousand Acres.

That each person that pays 5 *l.* Passage shall have given them for Inheritance, a Man 50 Acres, a Woman or Child 15 Acres each, to be setled under a Register; Liberty of Conscience to be there allowed, none but *Roman-Catholicks* excepted: That their Articles and Laws are to be seen at large, at the *Kings-Arms* in *Birching-Lane* from two till four of the Clock every Afternoon, where he will attend to treat at large about the Premises.

To make the true Spirit of Scurvy-Grass, *and also those which are now publickly Sold by the Names of Plain Spirit of* Scurvy-Grass, *and the Golden Purging Spirit thereof.*

TAke a Bushel, 2 or 3, more or less, of large fresh Garden-*Scurvy-Grass*, bruise it well in a Stone-Morter, or Wooden one, put it into a Wooden Vessel, pour on so much Water as will cover it two hands breadth or thereabout, put to it 2 or 3 handfulls of Salt, and a small quantity of Yeast, let it stand a few

few days till it ferments or works like Ale in the Ton; then distill it off in an ordinary Limbeck or Copper-Still, save the first running, for it is the true Spirit, which if you will have it stronger rectify, or distill it over again upon fresh *Scurvy-Grass*; save the first running as before, and you have a very strong, and the true Essential Spirit of *Scurvey-Grass*.

That which is ordinarily Sold for the Spirit of *Scurvy-Grass*, Plain and Golden Spirit, or as they call it, is made thus, *viz.*

Take of Commonly proof Spirit, of the Strong-water-Stillers, what quantity you please, 2, 3 or 4 Gallons, more or less, as you please, infuse or steep in it so much Garden *Scurvy Grass* as it can well contain, let it steep 12 hours, then still it off, and save the first half of what comes off, which still a second time, and save the first half as before, and you have that Spirit which is commonly Sold; which if you distill over again with fresh *Scurvy-Grass*, it will be yet stronger.

Then take a quart of this Spirit, put it in a Bottle, and put to it three ounces of *Jollop* gross Powdered, stop it and let it stand warm either in a Stove, or by a good Fire for 3 or 4 days, till you see it grow very red with tincture of the *Jollop*, and then pour it off clear, and this is the Golden Purging Spirit, of which a small spoonfull in a draught of Ale, Beer or Wine, is a moderate Purge, although it were to be wished, that there were a better and safer way of Purging than by this infusion in Strong-water, being unfit for hot Bodies; though for their profit, they who sell it commend it alike to all.

1. This was communicated by a worthy Gentleman.

2 The first Spirit is to be had, at the House of Mr. *John Bull*, mentioned in page 136, where are also to be had, Marin'd Fish, (of which see page 120,) *Oxfordshire* Ale, Cardamum Ale, and Bracket.

3. His advice is, that to six Gallons of Ale there be put in a quarter of an ounce of *Jollop*, (which is a white Purging Powder,) and to the value of a Shilling, of the Spirit of *Scurvy-Grass* right prepared as aforesaid.

A Collection of Letters about the improvement of Husbandry and Trade, by Mr *John Houghton* Fellow of the *Royal Society*. The Author publisheth these in single Sheets, and designs one about once a Month; and also would be glad of a Correspondence with such whose Studies or Endeavours incline thereto.

Lemmington, and divers other sorts of Salt, are to be had at *Billings-gate*, &c. And *Portsea*, or Mr. *Alcornes* Salt, may be bought in wholesale of the Worthy Mr. *John Bindlos*, a Merchant at the two *Blackamores-heads* in the middle of *Abchurch-Lane*, who I suppose ere long, will Lodge it in a Warehouse in *London*.

To page 119 about the Stewing and Collaring of Eels may be added. That if the Eels be alive, knock their heads against the Floore or Dresser and it kills them, rub their heads or tails with a little Sand or Salt and then take off their Skin, which will there begin to peele, wash them clean, cut off their heads, and take out the Guts at the heads of the Eels, roul them up round, and when thus prepared, scewer them, as in page aforesaid.

Beef Suet to be bought from time to time as occasion requires, beat it with a Rowling-Pin, take away the Skins and chop it small.

Ox-Guts mentioned page 136, being troublesome to prepare, are to be had ready done in *Cheek-Lane*.

There is lately Published a small Book, the price whereof is 1 *s.* 6 *d.* with this Title, The *Country-Survey-Book*: or Land-Meters *Vade-Mecum*. Wherein the Principles and *practical* Rules for *Surveying of Land*, are so plainly (though briefly) delivered, that any one of ordinary parts (understanding how to *add*, *substract*, *multiply*, and *divide*,) may by the help of this small *Treatise* alone, and a few cheap *Instruments* easy to be procured, *Measure* a parcel of Land, and with judgment and expedition *Plot it*, and give the Content thereof; with an *Appendix*, containing *Twelve Problems* touching *Compound Interest* and *Annuities*; and a *Method* to *Contract* the work of *Fellowship* and *Alligation Alternate*, very considerably in many Cases. *Illustrated with Copper Plates*, by *Adam Martindale*, a Friend to Mathematical Learning. Printed for *Robert Clavel*, at the *Pea-cock* in St. *Pauls* Church-yard, 1682.

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ERRATA.

NO Author (unless he would dwell at the Press) can prevent literal Mistakes, such I pretermit as Pardonable, those that are Material follow.

Pag. 5. *Line* 21. *for* are, *read* have been. *p.* 56. *l.* 4. *for* under, *read* thorough. *p.* 68. *l.* 24. *for* Masters, *read* Melters. *p.* 91. *l.* 7. *for* off at Sea against Berwick, *read* along the Coast Southwards. *p.* 121. *l.* 2. dele and Fish, *p.* 152. *l.* 6. *for* and others, *read* no others. *p.* 156. *l.* 14. *for* wo, *read* two.